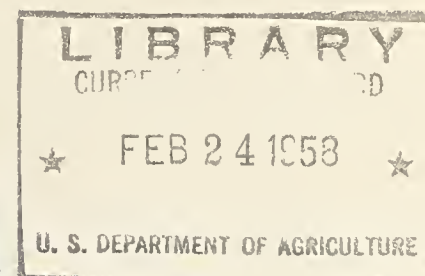


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# **Improving Livestock Marketing Efficiency**

**A Study of Nine Cooperative  
Livestock Markets in Ohio,  
Indiana and Michigan**

**By Ira M. Stevens  
and R. L. Fox**

**Farmer Cooperative Service  
U. S. Department of Agriculture**

**General Report 39      January 1958**

FARMER COOPERATIVE SERVICE  
U. S. DEPARTMENT OF AGRICULTURE  
WASHINGTON 25, D. C.

Joseph G. Knapp,  
*Administrator*

The Farmer Cooperative Service conducts research studies and service activities of assistance to farmers in connection with cooperatives engaged in marketing farm products, purchasing farm supplies, and supplying business services. The work of the Service relates to problems of management, organization, policies, financing, merchandising, product quality, costs, efficiency, and membership.

The Service publishes the results of such studies; confers and advises with officials of farmer cooperatives; and works with educational agencies, cooperatives, and others in the dissemination of information relating to cooperative principles and practices.

	Page
Summary-----	iii
Background-----	1
Limitations of data-----	3
Analysis of records -----	5
Auction and daily market receipts -----	5
Make-up of livestock receipts-----	7
Auction market -----	7
Daily market -----	9
Total sales -----	9
Business getting ability of markets -----	9
Costs, revenue and savings per animal unit -----	13
Costs with administrative expense listed separately -----	13
Management -----	13
Yard and field labor -----	15
Office labor -----	15
Miscellaneous labor expense -----	15
Auctioneer -----	15
Administrative - central office -----	16
Automobile -----	16
Telephone and telegraph -----	16
Other utilities -----	17
Office expense -----	17
Yard expense -----	17
Advertising and promotion -----	17
Taxes-----	17
Miscellaneous -----	17
Depreciation and rent-----	17
Interest on fixed assets investment-----	17
Owning or leasing facilities -----	17
Total expenses, revenue and savings-----	18
Costs with administrative expense allocated -----	18
Comparison of auction and daily markets-----	20
Comparison of species -----	24
Cattle-----	24
Calves -----	24
Hogs-----	24
Sheep and lambs -----	24
Mileage costs of automobiles-----	24
Labor efficiency -----	25
Time required to auction livestock-----	28
Cattle by class -----	28
Livestock by species - market comparisons -----	29
Effect of lot size on selling time -----	31
Actioneer's knowledge of livestock -----	32
Standards of performance -----	33
Business getting ability-----	34
Costs per animal unit -----	34
Automobile - cost per mile of operation -----	35
Labor efficiency -----	35
Time required to auction livestock-----	35

	Page
Suggestions for improvement-----	35
Securing greater volume -----	36
Efficient use of labor -----	36
Mechanization throughout the operation -----	37
Facility cost and arrangement -----	38
Pooling and group selling-----	39
Merit selling-----	40
Consolidations and mergers -----	41
Closer cooperation among associations -----	41



## Summary

This report covers results of a study of nine branch livestock markets representing three regional cooperatives in Ohio, Indiana, and Michigan. Object of the study was to find ways to help these and similar livestock markets improve their efficiency.

Each of the nine markets operated a weekly auction. In addition most of them also sold some livestock -- primarily hogs -- on other days of the week. During the study, the facility layout and operation of each was studied in detail and records showing volume of receipts and detailed costs and income were analyzed.

This report thus shows comparisons of these nine markets. It also gives suggestions for improved efficiency based on these findings.

It was not possible to make all the desired comparisons of costs because sufficient records had not been kept to show accurate costs by species. Also, the associations maintained different types of accounting systems. However there was enough similarity to adjust the records for definite comparisons of the major items.

The nine markets varied widely in efficiency. A market might be doing a good job in one respect but have unduly high costs in another. For the most part the variation followed a pattern in line with the economies of scale concept; that is, the largest markets showed lowest costs and greatest efficiency. However, there were notable exceptions.

Labor, the largest item of expense, averaged 83 cents per animal unit for the nine markets. In this study one animal unit equaled either one head of cattle, two calves, four hogs, or five sheep. The range was from 47 cents to \$1.05. Here was one of the exceptions mentioned above. For the market with the high labor cost was the one with greatest volume. A careful examination of labor costs may show markets with similarly high costs and some ways they can be reduced.

Administrative or central office cost showed greater variation than any other item. Range was between 9 and 58 cents per animal unit handled. In this case the pattern was as expected with the small

markets generally those with highest costs. However, it should also be noted that the high cost markets were branches of regional associations with fewer affiliates. Thus, each branch had to bear a larger portion of the central office expense. Regional management of less efficient markets should do everything possible to increase volume, to establish more branches among which to distribute administrative expense, and to carefully consider ways of reducing administrative costs.

Management expense ranged between 11 and 28 cents per animal unit. Again the small market had the high cost. Solution could be found in an increased volume of receipts. If this is not feasible, then a re-evaluation of outlay for management at the small markets should be made.

Each of the other major expense items showed wide variation at most of the markets. Those markets with low volume had high costs. Careful comparison by management of each market's costs with those of the other eight could help determine where there is greatest opportunity for improvement.

Total expense per animal unit varied substantially -- between \$1.61 and \$3.07. These figures include an item for interest allowed on investment besides the expenses listed on the books of each market. Revenue was relatively more uniform. Here the range was between \$1.98 and \$2.52. Margins per animal unit handled at the nine markets varied between a savings of 46 cents and a loss of 55 cents. The three markets with smallest volume sustained losses.

A group of standards were set up by which the markets could compare their own performance with that of the most efficient in the group. Standards included the following:

1. Business getting ability, as measured by the percent of total marketed livestock in a trade territory the market was able to get.

2. Cost per animal unit. Here each of the 16 major cost items was used. The lowest cost market in each category was the basis for the standard.

3. Automobile cost per mile of operation.

4. Labor efficiency as measured by number of animal units handled per man.

5. Time in seconds per head required to sell livestock at auction.

Recommendations for improvement include eight major points.

1. Large volume is basic to a successful livestock marketing operation because it permits more efficient use of manpower and facilities. It will attract more buyers, thus creating more buying competition and hence better prices which in turn will encourage more consignments.

2. Labor is the greatest item of cost. For this reason it is especially important that management institute a program of training employees for their jobs. Efficient use of labor is possible only when facilities are well designed and when the work is well planned and closely supervised.

3. Mechanization is important because its use may help to displace labor which we have seen is a high cost item. Careful study should be given to every possible new labor-saving device throughout the plant - both in the yards and office. However, care should be exercised so that the machine is installed only after definite evidence indicates it will provide economy in the operation.

4. Auction facility cost is high since it is fully utilized only once a week. Plans should be made for as much additional use as possible, such as a daily hog market, special sales, shows, and the like. The facilities should be designed

and built with these other uses in mind, but primarily attention should be given to economy, utility and ease of livestock flow.

5. Some markets are practicing pooling of lambs and weighing and grading of hogs and veal calves to sell in lots of commingled ownership. This system has many advantages. Its continued use and expansion is encouraged.

6. Merit selling means selling each animal for precisely what it is worth. Until consumers' desires are reflected back to the producer in the form of higher prices for desirable kinds of livestock, little progress will be made. The meat type hog program is a step in this direction. It is desirable that all markets work toward the goal of merit selling throughout their operation.

7. Small livestock markets are at a distinct disadvantage when compared with larger ones. In some cases consolidation or merger is the answer. It provides a way to improve efficiency and increase services to the farmer. If a study of the situation reveals consolidation is desirable, nothing should be allowed to stand in the way of its accomplishment.

8. In cases where consolidation is not necessary for efficient operation, some of the same advantages may be had by closer cooperation between the associations. Even though two organizations have basically different points of view - one trying to sell its members' livestock for the highest price, the other attempting to fill its members' orders at the lowest price - there is still a place for cooperation.



# Improving Livestock Marketing Efficiency

## A Study of Nine Cooperative Livestock Markets in Ohio, Indiana and Michigan

by **Ira M. Stevens and R. L. Fox**

*Livestock and Wool Branch  
Marketing Division*

**I**n the spring of 1955 three regional livestock marketing cooperatives requested the Farmer Cooperative Service to undertake a detailed study of their associations. These organizations were Producers Livestock Association, Columbus, Ohio; Producers Marketing Association, Inc., Indianapolis, Ind.; and Michigan Livestock Exchange, Detroit.

The management felt that their operations lacked efficiency in various aspects and that a well-designed and well-executed research project could help to find solutions to some of their problems.

The problems as visualized by the three associations were not identical. In fact, in some respects they were quite different. However, the cooperatives were all basically interested in the same end result - improving services to farmers through their market operations, and increasing efficiency all along the line.

### Background

A project was developed which included the following objectives: "To assist cooperative livestock marketing associations in the development of improved markets and services to farmers: by studying the factors which will aid in improving efficiency; by comparing costs of operating various types of markets, auctions, concentration yards, pools, and terminal market agencies; and by establishing standards of performance."

These objectives were purposely kept broad because many things are involved in bringing about improved efficiency in all types of livestock markets. Requests for study of their problems have been received from cooperatives which operate commission agencies on the terminal markets, and order buying agencies as well as auctions, daily markets and pools. To do the most effective job of studying these markets it was felt desirable to take one phase at a time. The local

auction and daily markets were studied first. Terminal markets and order buying subsidiaries will be studied later.

After consulting with the management of the three associations making the request, we chose certain of their branch markets which would be representative of their operations. Each branch operates a weekly auction and in most instances a daily hog market as well. Most of them also operate lamb pools and feeder calf sales in season.

Altogether nine markets were studied in detail - four from Ohio, three from Indiana, two from Michigan. The Ohio markets were located at Columbus, Marion, Wapakoneta, and Wilmington;<sup>1</sup> the Indiana markets included those at

<sup>1</sup>In August 1956 the facility at Wilmington, Ohio, was destroyed by fire. Since that time it has been rebuilt. This study is based on marketings through the old yards.

Columbia City, Lafayette, and Montpelier. In Michigan, the markets at Battle Creek and St. Louis were studied.

In the late fall of 1955 we went to each of these markets to study their operations, observing various details - layout of the facility, flow of livestock through the yards including methods used in receiving, (unloading, tagging, and yarding), sorting and grading when it was done, driving to the ring, selling, weighing, yarding in buyers' pens, and loading out, together with the paper work which accompanies these operations. We paid special attention to analysis of bottlenecks in the operation, such as cross traffic, inefficient use of labor at various points and undesirable design of facilities.

After the close of the year we obtained 1955 volume, and cost and income figures for each of the nine markets. The accounting records of the three associations were not uniform. However we were able to reconcile these differences and establish reasonably accurate common ground for comparing records of the

markets of the three associations. While in the field we again went to some of the markets and made further study of their operations. The detailed notes made here were used, together with our analysis of the records, as a basis for our discussion and recommendations in this report.

On one of our visits to the markets we made a study of the time required to sell livestock through the ring. Since it wasn't possible to complete this aspect of the work ourselves, personnel of the Department of Agricultural Economics at Purdue University completed the work for the three markets in Indiana. Records of some of the Ohio markets were taken by members of the Producers' staff.

All records were then analyzed in the office of the Farmer Cooperative Service, a tabular report prepared, and a discussion written to accompany the tables and charts. In February 1957, we presented these data to representatives from the Ohio and Indiana associations.

At the conclusion of this meeting we agreed to summarize the data and prepare



*This new, modern market is provided with separate facilities for hogs, cattle, calves and sheep. All species can be handled and sold at the same time. Butcher hogs are received throughout the week and handled through the order buying department. Other species and sows, boars and stags are sold through the weekly auction.*



two reports. One, designed for use of the three cooperatives, would consist of suggestions for improving the efficiency of the associations generally and of each of the nine branch markets included in the study. It would be supplemental to the tabular report mentioned above. The other also based on findings of the study would be prepared for wider distribution, so market names should be coded to conceal their identity. This report fulfills this commitment.

For the most part the markets studied showed a healthy growth situation for the 6-year period, 1951-56 (figure 1).

In comparing the success of any business one normally thinks of three major factors: Income, or dollar receipts; expenses, or cost of operating the business; and the difference between the two - margins or savings.

Since the operations being studied were of different sizes, these factors needed to be reduced to a common denominator to obtain a basis from which to make comparisons. In livestock marketing one could use such factors as are used in other industry: Dollars of sales, dollars of net worth of the business, dollars of total assets. Or he could make his comparisons on the basis of head of livestock handled.

However, since the expenses in this study could not be separated into those pertaining to each species - cattle, calves, hogs and sheep - we found it necessary to convert these livestock into a common unit. The factors used in this conversion were based in part on the relative market value of the four species, but primarily on income from commission charges at these markets. Incidentally the factors we used checked closely with those used by Cox and Blum in a recent Indiana livestock marketing cost study.<sup>2</sup> We feel our resulting conversion factor is as equitable as could be developed from our base. According to it, one animal unit consists of either

one head of cattle, two calves, four hogs or five sheep.

### Limitations of Data

As we got into our analysis some serious limitations of the data appeared. To mention some of them:

1. The management of one of the regional associations was particularly anxious to have a separate analysis made of the auction part of the business and the business handled on the other days of the week. However, expenses at all markets were reported on the basis of the entire operation - auction and daily. Herein, then, was a limitation of the records.

We did make a concerted attempt to find an equitable means for allocating expenses to the two operations. But since many of the same personnel were used at the auction and for the daily business, and the same market facilities were used for both operations, only a rough approximation could be made. We decided that no more equitable means could be found than to allocate these expense items on the basis of animal units handled through each outlet. An exception was made in the case of auctioneer expense; all of it was charged to auction operation.

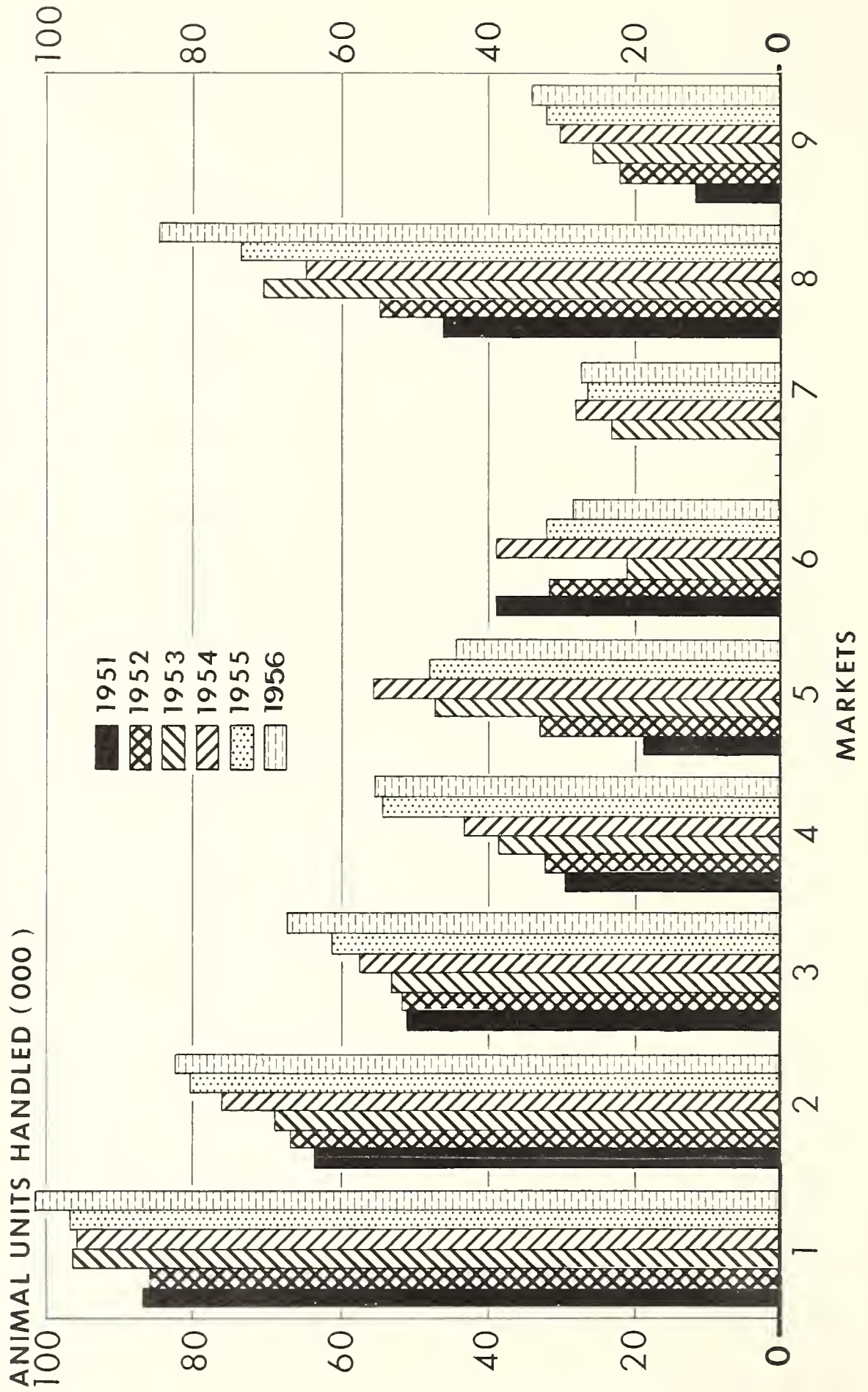
2. We would like also to have been able to compare costs and revenue by species to determine which department was making the greatest savings for its patrons. The same limitation applied here as in the case of the daily-auction comparison. Personnel and facilities were used for several or all species but the records were not set up to show how much for each. In lieu of a better way, the auction expense as determined previously was allocated to cattle, calves, hogs and sheep on the basis of the percent each represented of the total animal units handled through the auction. A similar procedure was used to allocate daily expense to the different species.

3. As mentioned above, it is common practice to compare the success of business operations on the basis of net worth or total assets. These yardsticks would have been helpful in our present analysis but could not be used because all three associations did not carry these figures on a branch-market basis.

<sup>2</sup>Cox, Clifton B., and Blum, Martin A. Cost of Operating Selected Indiana Livestock Markets. Purdue University Agricultural Experiment Station. Bul. 618. Feb. 1955.

Figure 1

# VOLUME OF LIVESTOCK HANDLED IN ANIMAL UNITS BY NINE BRANCH MARKETS IN OHIO, INDIANA & MICHIGAN 1951-55





## Analysis of Records

This section deals with our analysis of the individual records from the nine markets, together with comparisons.

### Auction and Daily Market Receipts

As mentioned above, all markets held a weekly auction sale. At the time of the study, one market held two regular weekly sales at which all species were handled. Since that time one has been discontinued. Another market had two sales each week, one for cattle and hogs, the other for sheep and lambs.

On days other than that on which the regular auction was held, a market was available to patrons who preferred not to consign their livestock to the auction. Livestock received on other than auction day in Ohio and Indiana were sold for the farmer by private treaty. The regular commission was charged for this service. In Michigan the daily livestock were bought by the cooperative and resold again. The daily market handled hogs primarily.

The nine markets all handled cattle, calves, hogs and sheep.

Cattle were generally handled through the auction although all markets also sold some cattle for patrons by private

treaty (table 1). For all nine markets 88 percent were sold through the auction and 12 percent through the daily market. However, the markets varied. At Market 2, for example, 23 percent were sold on the daily basis, while at Market 5 only 4 percent were so sold.

Greater variation was found in the method of handling calves. At most markets studied nearly 99 percent were handled through the auction. However, the practice at Market 1 was to sell all calves by private treaty. Market 4 handled about 14 percent this way.

The hog operation was largely a daily market program but all markets also handled some hogs through the auction. The general practice was to sell butcher hogs through the daily market and to handle sows, roughs, boars and stags through the auction. For the study as a whole 68 percent were handled through the daily market, 32 percent through the auction. This average, however, covers up some of the variation found among the markets. Two markets, numbers 3 and 9, sold the bulk of their hogs at auction; while all the rest, except number 8, sold more than 80 percent of their hogs through the daily market.

The sheep sales were more evenly divided than any other species - 52 percent



*An attractive yard and building are a form of good advertising. Sign on this facility which can be seen from the highway indicates the day of the weekly auction.*



Table 1. - Number of head and percent of each species of livestock handled through weekly auctions and daily markets<sup>1</sup> at nine branch markets in Ohio, Indiana and Michigan - 1955

Livestock sales	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
<b>Cattle:</b>										
Number of head	49,537	49,528	26,478	16,779	18,780	14,496	9,920	26,085	17,385	228,988
Percent auction	93	77	88	85	96	90	96	87	87	88
Percent daily	7	23	12	15	4	10	4	13	13	12
<b>Calves:</b>										
Number of head	14,671	15,432	9,942	3,609	2,149	4,116	5,790	10,117	7,161	72,987
Percent auction	-	100	100	86	98	99	99	99	99	79
Percent daily	100	-	-	14	2	1	1	1	1	21
<b>Hogs:</b>										
Number of head	106,393	67,310	76,247	118,559	102,899	49,209	42,091	167,859	33,480	764,047
Percent auction	19	18	85	20	18	13	17	35	95	32
Percent daily	81	82	15	80	82	87	83	65	5	68
<b>Sheep:</b>										
Number of head	65,957	29,662	59,161	30,632	9,336	13,634	13,439	34,873	18,200	274,894
Percent auction	39	56	86	20	55	44	39	65	31	52
Percent daily	61	44	14	80	45	56	61	35	69	48
<b>Total animal units</b>										
Number	96,662	80,004	62,343	54,350	47,447	31,583	26,026	80,082	32,975	511,472
Percent auction	58	65	88	42	52	57	58	59	84	62
Percent daily	42	35	12	58	48	43	42	41	16	38

<sup>1</sup>Daily market refers to sales of livestock for patrons by private treaty on all days other than auction sale day.

at auction, 48 percent daily. Variation here ranged between Market 4 where only 20 percent were sold through the auction to Market 3 that handled 86 percent in this manner. The daily sheep and lamb market was a reflection of the lamb pools which operated seasonally throughout most of the area.

When considering the whole operation - all species converted into animal units - 62 percent were sold through the auction, 38 percent through the daily market. Variation among markets was related to the make-up of the livestock volume at these markets. Market 4, for example, whose volume was mostly hogs, also had a relatively larger daily volume than any other market. Fifty-eight percent of the receipts at this market were handled on the daily market basis, 42 percent through the auction. Market 3 was found at the other extreme, where 88 percent were sold through the auction. Market 9 also handled a large proportion, 84 percent, of its volume through the auction.

## Make-up of Livestock Receipts

Table 2 shows livestock receipts by species, considered on the basis of animal units and subdivided by auction and daily handling.

Auction Market. - The auctions were conducted largely for the sale of cattle, although sizeable numbers of other species were sold through this market too. Sixty-three percent of all auction volume was cattle; 19 percent, hogs; and 9 percent each, calves and sheep.

Market 1 shows no calves sold by the auction method although the separate calf sale may have been in operation on a different day from the cattle auction. Markets 3 and 9 show a fairly high percentage of hogs sold by auction, as these markets both follow the practice of selling all hogs that arrive on an auction day through the sale that day.

In areas where lamb pools are not in operation, there would possibly be a larger percentage of sheep and lambs sold through the regular auction.



*A pen of slaughter cattle yarded in buyer's pen after sale through the auction.*



Table 2. - Percent of total animal units represented by each species at nine branch markets, 1955

Livestock sales		Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
<u>Auction sales:</u>											
Number of animal units		55,903	52,270	54,620	22,980	24,684	17,877	15,198	47,018	27,811	318,361
Percent:	Cattle	82	73	43	62	73	73	63	48	54	63
	Calves	-	15	9	7	4	11	19	11	13	9
	Hogs	9	6	30	26	19	9	11	31	29	19
	Sheep	9	6	18	5	4	7	7	10	4	9
<u>Daily sales:</u>											
Number of animal units		40,759	27,734	7,723	31,370	22,763	13,706	10,828	33,064	5,164	193,111
Percent:	Cattle	9	41	41	8	3	11	4	10	43	15
	Calves	18	-	-	1	-	-	-	-	1	4
	Hogs	53	50	38	75	93	78	81	83	8	67
	Sheep	20	9	21	16	4	11	15	7	48	14
<u>Total sales:</u>											
Number of animal units		96,662	80,004	62,343	54,350	47,447	31,583	26,026	80,082	32,975	511,472
Percent:	Cattle	51	62	42	31	40	46	38	33	53	45
	Calves	8	10	8	3	2	6	11	6	11	7
	Hogs	27	21	31	55	54	39	41	52	25	37
	Sheep	14	7	19	11	4	9	10	9	11	11

**Daily Market.** - As mentioned previously, the daily market was used largely for the sale of butcher hogs. Two-thirds of all animal units were hogs. With the exception of Market 1, calves represented only a small percentage of the livestock sold on the daily-market basis. We do not have adequate information to explain the high percentage of cattle sold at Markets 2 and 3, although we believe that the stocker and feeder cattle sold through these two markets were counted as daily business. Market 9 may also fall into this category since this market has an unusually large number of cattle units as compared with their other species.

**Total Sales.** - When considering total receipts handled through these markets (auction and daily), cattle sales represent 45 percent, hogs 37 percent, sheep and lambs 11 and calves 7. The markets varied considerably. Market 2, for example, was definitely a cattle market, selling 62 percent of its volume in the form of cattle, with only one-third as much - 21 percent - in hogs. Markets 4, 5 and 8 on the other hand, were primarily hog markets with over half of their volume coming from this species.

Veal calf sales were low at Markets 4 and 5, in areas where cattle and hog feeding are emphasized with little dairying. Lamb sales were also relatively low at Market 5, and high at Market 3.

Much of this variation, undoubtedly, is due to the species of livestock produced principally in each area. However, some of it may be due to special emphasis or lack of emphasis which local market managers have placed on each species.

Table 2 may be useful to the local operator in his study of the problem of volume.

### **Business Getting Ability of Markets**

Figures 2, 3, and 4 show the area from which each market draws the bulk of its livestock and the percent of the total livestock each market handles in its area. It is recognized that these lines cannot be drawn exactly, but they do show the area from which each market manager felt the largest share of his livestock originated. Figures showing the business getting ability of each market are

presented in table 3. Census of Agriculture data were used as the source of total marketings in each area.

At most of the markets studied a small percentage of the total livestock came from outside the designated area shown on the individual maps. In the case of two markets, however, the percentage originating outside the prescribed territory was larger. When the figures were over 100 percent, either or both of two factors may be responsible: (1) The market manager may have outlined too small an area or (2) the market may have had a sizeable stocker-feeder business coming from out of State that was not taken into consideration when the area was outlined.

Perhaps it would have been better to have the managers designate a separate area for each species of livestock. Then the territory or area for drawing livestock would have been limited or expanded, depending upon the species involved. It has been recognized that most of the markets draw cattle greater distances than they do hogs. Market 1 showed an extremely large area from which livestock is drawn, and this is not surprising in view of the increased industrialization surrounding the city, plus its market reputation and size. Livestock-producing farms are getting farther and farther away from the markets.

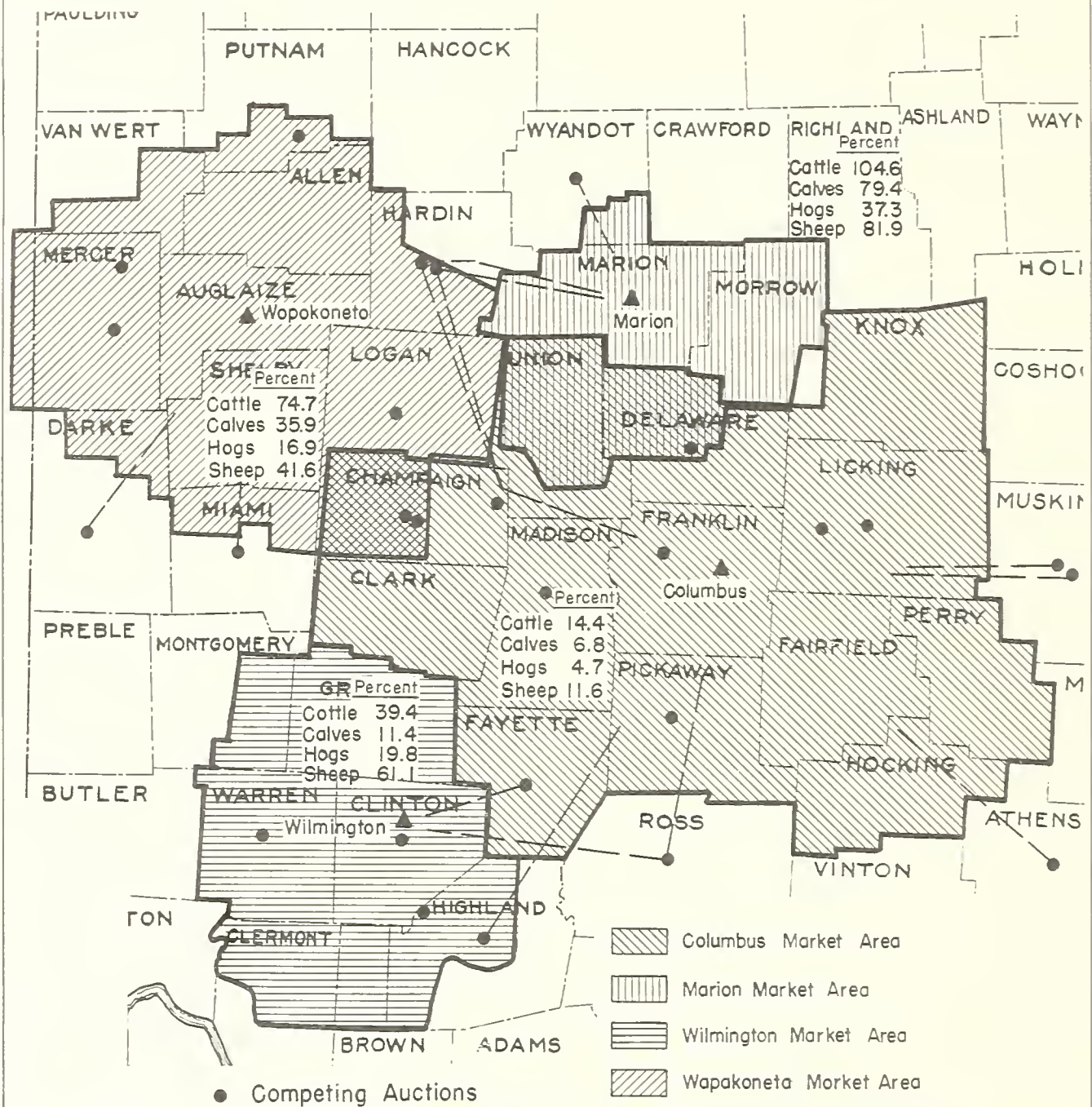
Managements at several of the markets have made surveys in the past to determine from how far livestock will be drawn. It has been found that cattle producers will haul their animals about three times as far as hog farmers.

Since the market-area boundaries were based only on the manager's judgment in each case, and since some managers were more optimistic than others, these areas were not uniformly accurate. For this reason the data cannot be used to compare the markets in their business-getting ability. However, they do show how well each market was serving farmers within its prescribed area.

Many factors explain the small percentage handled by a particular market. One of the main ones would be competition from other markets within the territory. Other markets in the area located so as



Figure 2  
OHIO MARKET AREAS: Showing percent of total marketed livestock handled by the market in each area



Note: There is an overlapping of the Columbus Market Area with that of Marion and Wapakoneta.



Figure 3  
**INDIANA MARKET AREAS:** Showing percent of total marketed livestock handled by the market in each area

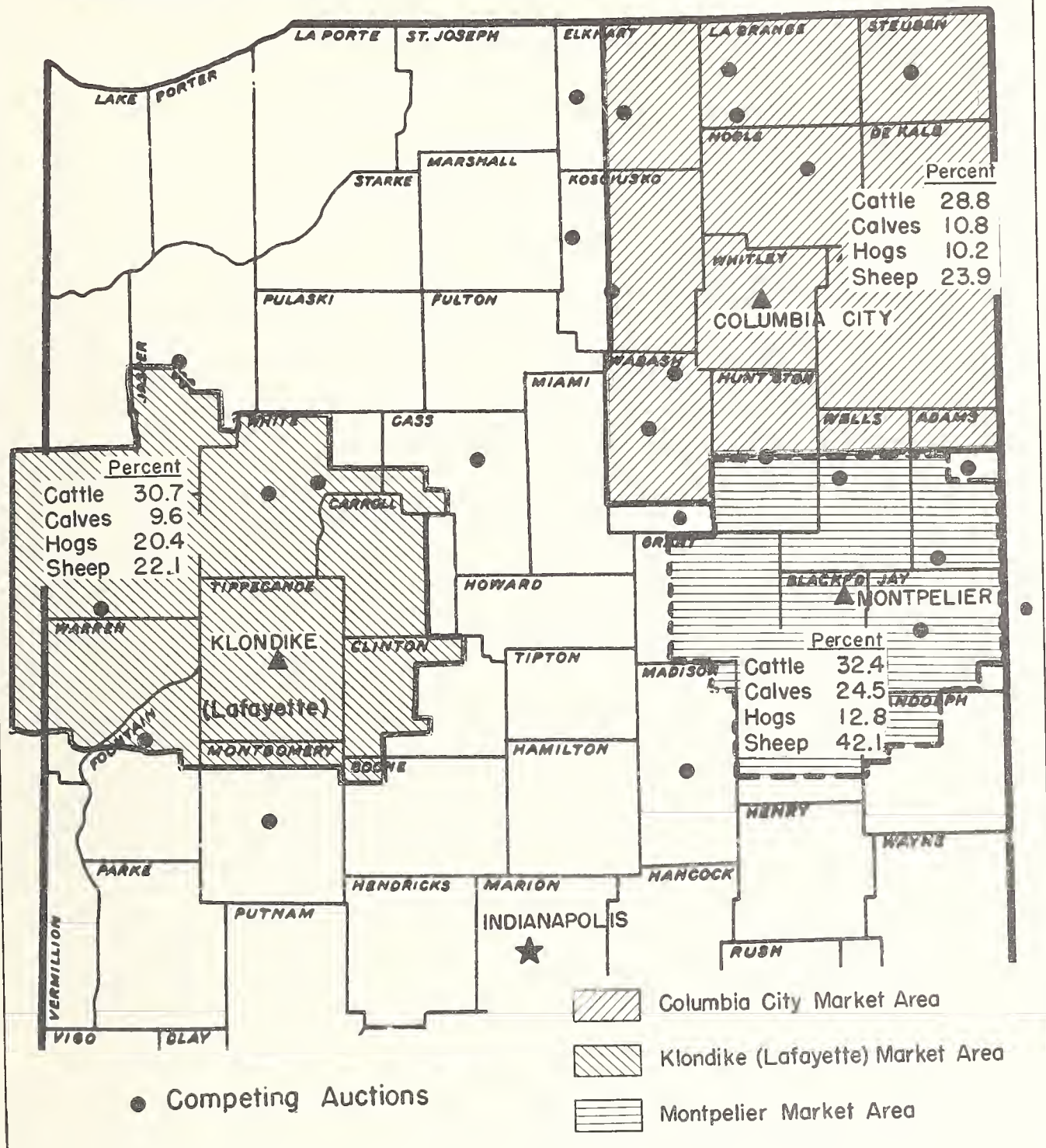


Figure 4

# MICHIGAN MARKET AREAS: Showing percent of total marketed livestock handled by the market in each area

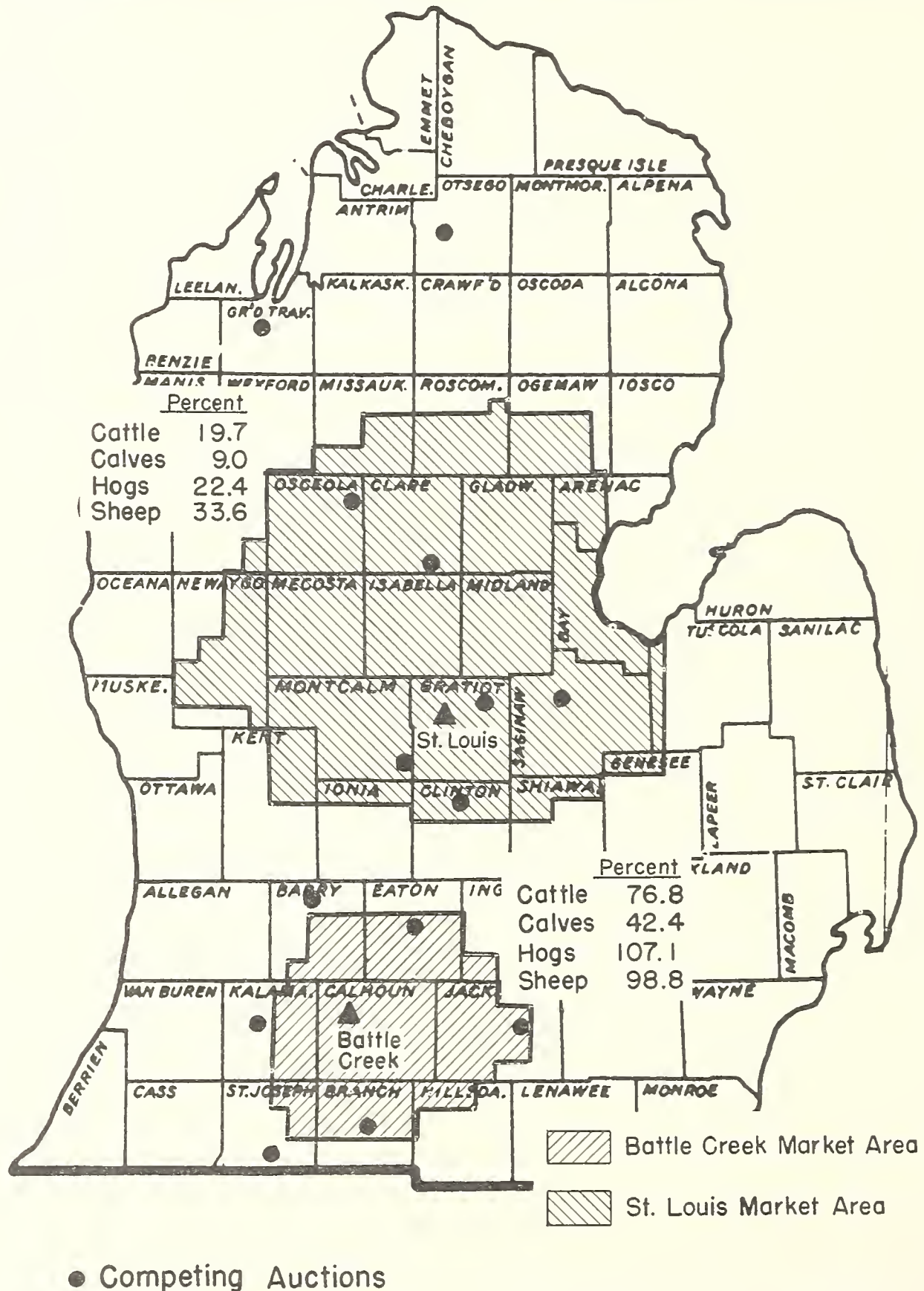




Table 3. - Percent nine branch markets handled of total livestock marketed in their trade territories<sup>1</sup>

Type of livestock	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
Cattle	14.4	74.7	104.6	39.4	30.7	28.8	32.4	76.8	19.7	41.1
Calves	6.8	35.9	79.4	11.4	9.6	10.8	24.5	42.4	9.0	21.4
Hogs	4.7	16.9	37.3	19.8	20.4	10.2	12.8	107.1	22.4	19.4
Sheep	11.6	41.6	81.9	61.1	22.1	23.9	42.1	98.8	33.6	40.8
Total in animal units	22.8	37.7	65.2	23.3	23.3	16.9	20.6	82.7	18.6	28.1

<sup>1</sup>Based on Agricultural Census data and market operations during 1954. The Census figures reflect only marketings by farmers living in the area, whereas the branch market figures include some few animals brought in from outside the area. To the extent of this error the percentages are too large.

to offer competition are noted on the maps. We have no way of knowing their volume or which are serious competitors but each market manager could benefit from a study of his competition to determine the degree of its success and reasons for it.

It might even be necessary to back up some time and write off a market that will not pay its own way because of small volume or too keen competition from markets that evidently are doing a better job of serving farmers. Of course, no market can be written off as a bad investment until after the individual case is studied in its entirety.

Of necessity, some auction facilities are too large during the first few years of operation and are expected to be a losing proposition until such time as volume can be built. But after these first few years, no market can justify itself unless it can pay operating expenses, retire investment capital and show some earnings for effort and time expended.

#### Costs, Revenue and Savings Per Animal Unit

Table 4 showing costs per animal unit is the first of several similar tables. Nine columns are headed by codes representing the markets being studied. The column on the right represents a weighted average of the nine markets. The first line shows the number of animal units handled at each market. Then follow in the body of the table expenses per animal unit, listed under 16 major items.

In addition to the expenses shown on the books, which we have condensed into the first 15 items, we have added an item of interest on investment in fixed assets. Five percent was felt to be an equitable rate. We are aware of the controversy between economists and accountants over the propriety of using interest as an item of expense. However, we have used it because our analysis is based largely on comparisons between the various markets.

Three of the markets are rented and six owned. Certain items such as rent, depreciation, taxes, and yard expense are not comparable among markets where part of them are rented and part are owned. By using interest as a cost these markets become comparable. Otherwise the business which owned all its facilities and operating capital would show it was doing a much better job than another business under similar circumstances operating largely on borrowed capital.

#### Costs with Administrative Expense Listed Separately

In this section, each item of expense is discussed separately, including the cost of administrative (central office) expense. In the next section, we allocated the cost of administrative services to various accounts. This caused a considerable increase in the management cost per animal unit.

**Management.** - This figure composed largely of the local manager's salary, varied between 11 and 28 cents per animal unit handled at Markets 8 and 9. Almost

Table 4. - Marketing expense, revenue and savings per animal unit handled by nine branch markets, 1955<sup>1</sup>

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
Animal units handled:	96,662	80,004	62,343	54,350	47,447	31,583	26,026	80,082	32,975	511,472
	Amount per animal unit									
Management	\$0.15	\$0.18	\$0.18	\$0.16	\$0.18	\$0.23	\$0.26	\$0.11	\$0.28	\$0.17
Yard and field labor	.85	.66	.74	.59	.31	.66	.63	.53	.50	.64
Office labor	.20	.17	.19	.20	.16	.26	.27	.15	.24	.19
Misc. labor expense	.06	.06	.05	.05	.09	.11	.11	.04	.04	.06
Auctioneer	.07	.07	.07	.05	.12	.24	.18	.08	.12	.09
Administrative (central office)	.11	.10	.10	.09	.55	.58	.57	.24	.23	.23
Automobile	.08	.09	.09	.07	.09	.11	.10	.07	.10	.08
Telephone and telegraph	.03	.03	.04	.05	.10	.10	.08	.08	.04	.05
Other utilities	.08	.02	.04	.02	.03	.04	.06	.02	.03	.04
Office expense	.05	.04	.06	.04	.03	.05	.04	.04	.08	.05
Yard expense	.11	.10	.08	.03	.10	.13	.14	.04	.01	.08
Advertising and promotion	.06	.01	.03	.05	.05	.09	.05	.10	.11	.06
Taxes	.04	.01	(2)	(2)	.02	.04	.02	.02	.02	.02
Miscellaneous	.03	.07	.05	.04	.13	.13	.10	.10	.16	.08
Depr. and rent	.06	.07	.06	.16	.12	.14	.11	.18	.24	.12
Interest on fixed assets investment	.08	.03	.09	.01	.16	.16	.27	.01	.01	.07
Total expense	2.06	1.71	1.87	1.61	2.24	3.07	2.99	1.81	2.21	2.03
Total revenue	2.12	2.06	2.08	2.98	2.37	2.52	2.49	2.27	2.13	2.18
Savings	.06	.35	.21	.37	.13	(.55)	(.50)	.46	(.08)	.15

<sup>1</sup>Includes administrative expense from the Central Office listed as a separate item.

<sup>2</sup>Less than 0.5 cent.

<sup>3</sup>Depreciation and rent is unusually high and interest on investment is unusually low at Markets 3, 8, and 9 because these markets were rented while others were owned.



as many dollars were expended for management at one of these markets as at the other. With only 40 percent as much volume at the smaller market, the cost per animal unit became two and one-half times as high. Average cost for the whole study was 17 cents per animal unit handled. Management costs at Markets 6 and 7 were also high, the major reason being their low volume.

It may be necessary to take another look at these figures. The most desirable solution is to increase the volume. If this cannot be done the next thing to consider, if we are realistic, is whether management cost is too high. We realize there is no simple answer and we must be careful not to oversimplify. All comparisons are made to be used as a guide so that each association and each branch market can see how its own operations compare with others.

Yard and Field Labor. - Here was the largest single item of expense. The first three markets, despite their generally larger volumes, still had the higher costs. The highest cost was at Market 1. This may be associated with the large area from which livestock came to this market. However, there were more full-time employees at these markets, particularly



*Tagging and recording numbers of cattle as they are received is necessary to keep their identity straight.*

at Market 1, than at the others. Part of the reason for the high costs might have come from the difference in organization. With the cost per animal unit over twice as high at some markets as at others, this is an excellent place for the high-cost markets to begin looking for greater efficiencies.

Office Labor. - The various markets did not differ greatly in cost per animal unit for office help. Exceptions were the three markets with smallest volumes, Markets 6, 7, and 9. Herein may lie an opportunity for some savings. Reference will be made to this point later in the discussion of labor efficiency.

Miscellaneous Labor Expense. - This included costs of unemployment insurance, payroll tax, retirement, and the like. It also included car fees paid to the National Livestock Producers Association. These fees were included as an item of labor expense because of service rendered to the local and regional associations by the National. Some of the variation might be due to the items included in this figure at the different associations.

Auctioneer. - Here the variation was great. At one small market where two sales were held each week the cost was



*Prompt payment by buyers for livestock purchased should be required at all markets. Farmers also appreciate the service of prompt payment for livestock consigned. Much of this is taken care of the day of sale, the rest the day following.*



24 cents per animal unit handled. This compared with 18 cents at the smallest of the markets and 12 cents at each of two others. The remaining five ranged between 5 and 8 cents. Volume was directly related to auctioneer cost. Of course, an effective auction service is a very important function of these livestock markets. While this expense, as all others, should be watched it may be false economy to try to cut too much here.

Administrative - Central Office. - The markets differed more in this item than in any other. Average yearly cost at Markets 4, 5, and 6 was nearly \$20,000. At Markets 8 and 9 it was \$14,000; at the first four \$7,500. When reduced to the basis of cost per animal unit handled the difference became much greater. The first four markets averaged 10 cents per animal unit, the next three 56 cents and the last two 24 cents.

Of course, we need not look far to find the cause of much of this variation. The markets with the low administrative costs were members of a regional that had more markets to help bear these costs.

But a difference of 46 cents per animal unit handled still seems unusually

large. Several ways to help reduce it would include: (1) Increase volume handled at each market; (2) increase number of branch markets among which to distribute the administrative expense; (3) if neither of these can be done to make a substantial reduction in cost per animal unit, then careful consideration should be given to ways and means of reducing administrative costs.

Automobile. - Variation here was not great - from 7 cents to 11 cents per animal unit handled. Table 9 on page 25 shows a comparison of costs per mile driven. It shows an advantage to Markets 5, 6, and 7. These markets owned smaller cars that were driven greater distances. In the comparison here, however, the cost of operating automobiles at these same markets was slightly greater on an animal unit basis because of the smaller volumes handled.

Telephone and Telegraph. - Here again we found considerable variation between the markets. Some relationship existed between this cost and volume of hogs handled. The markets which had large daily hog volumes had higher telephone costs per animal unit than the other markets studied in the same associations.



*All types of transportation are used to haul livestock to and from auctions - rail, large tractor-trailers, farm trucks, pickups and even cars with trailers.*

Other Utilities. - This included all utilities except telephone and telegraph. The cost at Market 1 was more than four times as high in actual dollars as at any other market, except number 4 and here it was more than two and one-half times as high. Even on an animal-unit basis, this utility cost was high at Market 1, despite the fact that this market handled the largest volume. Average for all markets was 4 cents per animal unit. If Market 1 could get its cost down to the average, it would be able to save nearly \$4,000 a year.

Office Expense. - This item included postage, stationery, other office supplies, and repair and maintenance of office furniture and equipment. It ranged from 3 to 8 cents and was high at Markets 3 and 9.

Yard Expense. - Here were included yard supplies, insurance, repairs and upkeep of yards and buildings, but not depreciation. The low markets were 4, 8, and 9, all of them leasing their facilities. Others ranged between 8 and 14 cents per animal unit.

Advertising and Promotion. - This item may not be strictly comparable at the three associations because of the difference in items included in these accounts. In Ohio it was listed simply as "advertising"; in Indiana it included advertising, education and promotion, entertainment, extraordinary,<sup>3</sup> periodicals and publications; in Michigan it included advertising, subscriptions and dues. Considerable variation was noted among the markets. When the item gets as high as 9 to 11 cents as at Markets 6, 8, and 9, it may be well to study it in some detail to determine if savings can be made.

Taxes. - A rather wide variation from 4 cents per animal unit at Market 1 to less than 1 cent at Markets 3 and 4 was found in taxes. The higher tax cost may have been influenced by the location of the market. This would account for a difference in assessed valuation and mill levy. The main reason for such a low tax at Market 4 is that the facility was leased.

<sup>3</sup>The "extraordinary" account includes such items as annual meeting expense, travel to annual American Institute of Cooperation meetings, 4-H Club awards, and contribution to Purdue University for research.

Miscellaneous. - This miscellaneous item also may not have been comparable among the three marketing associations. It was much larger than shown on the books but was made so by the necessity of condensing the number of major items covered.

Depreciation and Rent. - This item was high at Markets 4, 8, and 9 where facilities were rented. It was about twice as large per animal unit handled at Markets 5, 6, and 7 as at Markets 1, 2, and 3. The main reason for this was the smaller volume handled at the former markets. However, another contributing factor was that these markets have newer and more costly facilities and hence required a greater depreciation charge.

Interest on Fixed Assets Investment. - This obviously was low at the markets which rented their facilities - numbers 4, 8, and 9. The investment in fixed assets at Market 1 was almost the same as Market 5, but since the volume handled was twice as great at number 1, the cost of interest on this investment per animal unit was only half as much.

Owning or Leasing Facilities. - An interesting comparison of facility cost between certain owned and leased plants was made. The annual cost per animal unit for these facilities was made up of depreciation or rent, yard expense, and interest on investment in fixed assets. These costs in cents per animal unit handled were as follows:

	<u>Facilities owned<sup>4</sup></u>			<u>Facilities leased</u>		
	<u>Markets:</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>8</u>	<u>9</u>
Depreciation and rent	7	8	7	17	18	24
Yard expense	10	9	8	3	4	1
Interest	<u>8</u>	<u>3</u>	<u>9</u>	<u>1</u>	<u>1</u>	<u>1</u>
Total	25	20	24	21	23	26

It can be seen from the above table that the total cost at the leased facilities

<sup>4</sup>Only three of the six owned facilities are used in this comparison. The other three are relatively new so the depreciation and interest are unusually high.





*Due to limited land facilities, this market has had to expand lengthwise. It would seem that this should detract from its operational efficiency but the record showed it to be one of the more efficient auctions.*

was not greatly different from the cost when the facilities were owned by the cooperative. The extra 10 to 15 cents expended for rent at the leased facilities was offset by the larger yard expense and interest figures where the markets were owned.

The cost of upkeep of facilities (yard expense) as well as a reasonable rate of return to the owners for their investment and a depreciation allowance should be considered when the rental rate is being determined. This study was not designed to ascertain whether the rental on the three facilities was equitable. However, from the above analysis, it seems that it was not far out of line.

#### Total Expenses, Revenue and Savings

The greatest saving per animal unit, 46 cents, was found at Market 8. A contributing factor to this high saving was the large volume handled. The revenue per animal unit was 9 cents greater at this market than the average, while the expenses were kept down 22 cents below the average for the nine markets.

Three markets showed a loss ranging from 8 cents to 55 cents per animal unit. These were the markets with smallest volume. The two with the greatest loss

apparently had recognized that their costs were high and had attempted to keep their loss down by charging high commission rates. Even though they had revenues of 31 and 34 cents higher than the average, they still lost 50 and 55 cents for each animal unit handled. Plainly, then, the answer cannot be found in charging ever higher commissions. Rather it must come from an increase in volume, a more efficient operation, with a reduction in costs - or a combination of both.

#### Costs with Administrative Expense Allocated

Table 5, showing costs per animal unit with administrative expense allocated to various accounts, is similar to table 4 except that here administrative expense from the central office was not listed as a separate item. Rather it has been broken down and included in management, advertising and promotion, taxes, telephone and telegraph - in fact in all the items shown on the books among which administrative expense can be allocated.

The part of administrative expense paid for such items as salaries, travel and directors' services is shown in this table as management costs. This shift of

Table 5. - Marketing expense, revenue and savings per animal unit handled by nine branch markets, with administrative expense allocated, 1955<sup>1</sup>

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
Animal units handled:	96,662	80,004	62,343	54,350	47,447	31,583	26,026	80,082	32,975	511,472
	Amount per animal unit									
Management	\$0.19	\$0.22	\$0.22	\$0.20	\$0.54	\$0.62	\$0.64	\$0.26	\$0.42	\$0.31
Yard and field labor	.85	.67	.74	.59	.31	.65	.63	.53	.50	.64
Office labor	.21	.17	.19	.20	.16	.26	.27	.15	.24	.19
Misc. labor expense	.06	.06	.05	.05	.09	.11	.11	.04	.04	.06
Auctioneer	.07	.07	.07	.05	.12	.24	.18	.08	.12	.09
Automobile	.08	.09	.09	.07	.13	.15	.14	.07	.10	.10
Telephone and telegraph	.04	.03	.05	.05	.12	.12	.10	.08	.04	.06
Other utilities	.07	.02	.04	.02	.05	.06	.08	.02	.02	.04
Office expense	.07	.05	.07	.05	.04	.05	.05	.04	.08	.06
Yard expense	.10	.09	.08	.03	.12	.16	.16	.04	.01	.08
Advertising and promotion	.08	.03	.05	.06	.08	.13	.09	.16	.17	.09
Taxes	.04	.01	(2)	.01	.02	.05	.02	.02	.02	.02
Miscellaneous	.05	.09	.06	.05	.17	.17	.14	.13	.20	.10
Depr. and rent	.07	.08	.07	.17	.13	.14	.11	.18	.24	.12
Interest on fixed assets investment	.08	.03	.09	.01	.16	.16	.27	.01	.01	.07
Total expense	2.06	1.71	1.87	1.61	2.24	3.07	2.99	1.81	2.21	2.03
Total revenue	2.12	2.06	2.08	1.98	2.37	2.52	2.49	2.27	2.13	2.18
Savings	.06	.35	.21	.37	.13	(.55)	(.50)	.46	(.08)	.15

<sup>1</sup>Administrative expense from central office is not listed as a separate item but is included in the other expense items.

<sup>2</sup>Less than 0.5 cent.



emphasis made the management cost much larger than in the previous table. Total management expense was shown in table 4 to be 17 cents per animal unit. Of course, this represented only local management. When management from the central office is included, this cost became 31 cents. The rise in management cost when that from the central office was included was particularly noticeable in Markets 5, 6, and 7 where it will be remembered administrative expense was unusually high.

Management cost was least at Market 1 but yard and field service cost greatest. It was 21 cents higher than the average of the nine markets. A saving of 21 cents each on 96,000 animal units would amount to over \$20,000. This high cost is especially worth noting since this market handled the largest volume. If other factors had been equal this large volume should have made for the lowest cost per animal unit.

#### Comparison of Auction and Daily Market

Total revenue by species was available from records of the associations, but this was not broken down into income from auction and daily business. Volume of each species sold through auction and through the daily market was available, so we allocated the revenue to auction and daily market by species on the basis of volume. A total auction revenue figure then was obtained by adding the auction revenue from each species. The same was done to get an estimated total daily revenue figure (tables 6 and 7).

The same problem was found when an attempt was made to break down expenses into those chargeable to daily and auction business. Since these operations were carried on simultaneously, with the same men and the same facilities and since no separate cost account records had been kept, the only alternative was to estimate. After an unsuccessful attempt to get uniform estimates from the bookkeepers or managers, it was finally decided to allocate the expense to auction and daily markets on the basis of animal units handled through each of these outlets.

Comparison of tables 6 and 7 show that expenses per animal unit at the

auction and daily market were almost identical except for the auctioneer cost which was all charged to the auction operation. This similarity of the expense portion of these tables is due to the method used in allocating the expense. As explained above it was done on the basis of animal units handled.

Revenue and savings per animal unit were different at the two outlets. In case of Markets 8 and 9 the auction revenue was commissions from sales. At the daily market it was the difference between purchase price and sale price, as the livestock was actually bought and sold at these daily markets. Market 9 showed a large loss on its daily business, \$1.57 per animal unit handled. An examination of the figures indicated this loss was due to low revenue rather than to high expense. It appears that less savings were made when livestock were bought and sold than when handled on a commission basis. Many of the stock obtained on the daily market appear to have been bought too high. This may have been done in most instances to support the market. Market 8 showed a small loss on the daily operation, but a sizeable savings, 81 cents, at the auction.

To make an accurate comparison of savings from the auction and daily market it would be necessary to do either of two things:

1. Set up a system of cost accounting and keep accurate records of the auction and the daily operation. This would need to be done by a bookkeeper at each association. It would require close cooperation of all employees whose work was divided between the auction and the daily market; they would need to keep an account of time spent on each as well as all other expenses to be charged to each.

2. Make time and motion studies of the essential activities in each operation. From this a model could be developed and by use of budget analysis a fairly accurate determination of the costs at each market outlet made. This would require considerable time and expense and could probably best be done by the State college. Nearness of the researcher to the markets, of course, would help to keep the costs down.



Table 6. - Marketing expense, revenue and savings per animal unit handled through the auctions at nine branch markets, 1955

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
Animal units handled:	55,903	52,270	54,620	22,980	24,684	17,877	15,198	47,018	27,811	318,361
	Amount per animal unit									
Management	\$0.15	\$0.18	\$0.18	\$0.16	\$0.18	\$0.23	\$0.26	\$0.12	\$0.27	\$0.18
Yard and field labor	.84	.66	.74	.59	.31	.65	.63	.53	.50	.64
Office labor	.21	.17	.19	.20	.16	.26	.27	.15	.24	.19
Misc. labor expense	.06	.06	.05	.05	.09	.11	.11	.04	.04	.06
Auctioneer	.12	.11	.08	.11	.23	.43	.30	.13	.15	.15
Administrative (central office)	.11	.10	.09	.09	.55	.58	.57	.24	.23	.22
Automobile	.08	.08	.09	.07	.09	.11	.10	.07	.10	.08
Telephone and telegraph	.03	.03	.04	.05	.10	.10	.08	.08	.04	.05
Other utilities	.08	.02	.04	.02	.03	.04	.06	.02	.02	.04
Office expense	.05	.04	.06	.04	.03	.05	.04	.04	.08	.05
Yard expense	.11	.10	.08	.03	.10	.13	.14	.03	.01	.08
Advertising and promotion	.06	.01	.03	.05	.05	.09	.05	.10	.11	.05
Taxes	.04	.01	(1)	(1)	.02	.05	.02	.02	.02	.02
Miscellaneous	.03	.08	.05	.04	.13	.13	.10	.10	.16	.08
Depr. and rent	.06	.07	.06	.16	.12	.14	.11	.18	.25	.12
Interest on fixed assets investment	.08	.03	.09	.01	.16	.16	.27	.02	.01	.07
Total expense	2.11	1.75	1.88	1.67	2.35	3.26	3.11	1.87	2.23	2.08
Total revenue	2.10	2.06	2.08	1.89	2.55	2.67	2.66	2.68	2.43	2.28
Savings	(.01)	.31	.20	.22	.20	(.59)	(.45)	.81	.20	.20

<sup>1</sup>Less than 0.5 cent.

Table 7. - Marketing expense, revenue and savings per animal unit handled through the daily markets at nine branch markets, 1955

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
Animal units handled:	40,759	27,734	7,727	31,370	22,763	13,706	10,828	33,064	5,164	193,111
	Amount per animal unit									
Management	\$0.15	\$0.18	\$0.18	\$0.16	\$0.18	\$0.23	\$0.26	\$0.12	\$0.28	\$0.17
Yard and field labor	.85	.66	.74	.59	.31	.66	.63	.53	.50	.63
Office labor	.21	.17	.19	.20	.16	.26	.27	.15	.24	.19
Misc. labor expense	.05	.06	.05	.05	.09	.11	.11	.03	.04	.06
Auctioneer	-	-	-	-	-	-	-	-	-	-
Administrative (central office)	.11	.10	.10	.09	.55	.58	.57	.25	.23	.24
Automobile	.08	.08	.09	.07	.09	.11	.10	.07	.10	.08
Telephone and telegraph	.03	.03	.04	.05	.10	.10	.08	.08	.04	.06
Other utilities	.08	.02	.04	.02	.03	.04	.06	.02	.02	.04
Office expense	.05	.04	.06	.04	.03	.05	.05	.04	.08	.04
Yard expense	.11	.10	.08	.03	.10	.13	.14	.03	.01	.08
Advertising and promotion	.06	.01	.03	.05	.05	.09	.05	.10	.11	.06
Taxes	.04	.01	(1)	(1)	.02	.04	.02	.02	.02	.02
Miscellaneous	.03	.08	.05	.04	.13	.13	.10	.10	.16	.08
Depr. and rent	.06	.07	.06	.16	.12	.14	.11	.18	.25	.12
Interest on fixed assets investment	.08	.03	.09	.01	.16	.16	.27	.01	.01	.07
Total expense	1.99	1.64	1.80	1.56	2.12	2.83	2.82	1.73	2.09	1.94
Total revenue	2.16	2.08	2.08	2.04	2.18	2.32	2.24	1.69	.52	2.02
Savings	.17	.44	.28	.48	.06	(.51)	(.58)	(.04)	(1.57)	.08

<sup>1</sup>Less than 0.5 cent.

Table 8. - Volume, revenue, expense and savings per head handled by species at nine branch markets, 1955

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
<u>Cattle:</u>										
Number of head	49,537	49,528	26,478	16,779	18,780	14,496	9,920	26,085	17,385	228,988
Revenue	\$2.10	\$2.02	\$2.04	\$1.77	\$2.63	\$2.70	\$2.75	\$2.89	\$2.64	\$2.28
Expense	2.10	1.72	1.87	1.66	2.34	3.22	3.10	1.85	2.21	2.07
Savings	-	.30	.17	.11	.29	(.52)	(.35)	1.04	.43	.21
<u>Calves:</u>										
Number of head	14,671	15,432	9,942	3,609	2,149	4,116	5,790	10,117	7,161	72,987
Revenue	\$1.13	\$1.10	\$1.10	\$1.06	\$1.35	\$1.41	\$1.34	\$1.24	\$1.10	\$1.17
Expense	1.00	.87	.94	.84	1.18	1.62	1.55	.93	1.11	1.04
Savings	.13	.23	.16	.22	.17	(.21)	(.21)	.31	(.01)	.13
<u>Hogs:</u>										
Number of head	106,393	67,310	76,247	118,559	102,899	49,209	42,091	167,859	33,480	764,047
Revenue	\$0.55	\$0.54	\$0.55	\$0.53	\$0.54	\$0.55	\$0.54	\$0.63	\$0.56	\$0.55
Expense	.50	.42	.47	.39	.54	.72	.72	.44	.55	.50
Savings	.05	.12	.08	.14	-	(.17)	(.18)	.19	.01	.05
<u>Sheep and Lambs:</u>										
Number of head	65,957	29,662	59,161	30,632	9,336	13,634	13,439	34,873	18,200	274,894
Revenue	\$0.40	\$0.39	\$0.38	\$0.37	\$0.55	\$0.54	\$0.53	\$0.47	\$0.36	\$0.42
Expense	.41	.34	.38	.31	.44	.60	.58	.36	.43	.40
Savings	(.01)	.05	-	.06	.11	(.06)	.05	.11	(.07)	.02



## Comparison of Species

As mentioned earlier, revenue by species was available from the books. Expense was allocated to the different species on the basis of animal units.

Table 8 shows volume, revenue expense and savings per head handled for each of the four species, cattle, calves, hogs and sheep.

Cattle. - Cattle expense figures shown in table 8 were not greatly different from those shown on the basis of animal units in table 4. This is as would be expected, since cattle were used as the basis for computing animal units.

Savings varied considerably at the nine markets studied - from \$1.04 per head at Market 8 to losses of 52 cents per head at Market 6, and 35 cents at Market 7. The high savings were due mostly to the large revenue per head. This market received 61 cents more revenue per head than the average of the nine

markets, but the expense was down only 22 cents below the average. On the other hand, the markets with the heavy loss were high cost markets. They were those which handled the smallest volume and the costs per head were \$1.03 and \$1.15 greater than the average.

Calves. - A similar situation was found with calves. Average revenue per head was \$1.17, expense was \$1.04, and savings \$0.13. Savings varied from 31 cents to a loss of 21 cents with the same markets being high and low as with cattle.

Hogs. - Hog expense averaged 50 cents a head, revenue was 55 cents leaving an average savings of 5 cents. Range in savings was from 19 cents a head to a loss of 18 cents per head. Another market also lost 17 cents per head. But these two markets each handled less than 50,000 head of hogs. The highest savings of 19 cents was again at Market 8, which handled the largest number of hogs - nearly 168,000 head.

Sheep and Lambs. - Average revenue per head was 42 cents, expenses 40 cents and savings 2 cents. Three markets showed a loss ranging from 1 to 7 cents a head. At two markets, numbers 5 and 8, savings were 11 cents. Market 5 was high largely because the revenue per head was high - 13 cents greater than average and costs were 4 cents larger than average. However, savings at Market 8 were high for a different reason. Here expense per head was kept down, 4 cents below average while revenue was 5 cents greater than average.

This comparison demonstrates the possibility of increasing savings through reducing costs or increasing revenue. Obviously, if it comes to a choice between the two methods, it would be better to reduce costs, because by so doing an increased volume would be encouraged. On the other hand, an increase in revenue per head would mean a rise in the selling charges which would tend to discourage greater volumes.

## Mileage Costs of Automobiles

The costs of operating automobiles presented an interesting study. These



*Grading hogs so they can be sold on the basis of merit is a program recommended at all markets. This experienced man can grade with only a chute and cutting gate.*

Table 9. - Cost of operating automobiles at nine branch markets, 1955

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
Number of automobiles	7	6	5	4	3	2	2	3	2	34
Miles driven per auto (in thousands)	24	17	18	16	30	34	30	28	39	24
Cost per mile (cents)	5.3	7.1	6.1	6.5	5.1	5.2	4.8	5.9	4.9	5.4

included gasoline, oil, repairs and maintenance as well as interest on investment (table 9). It was assumed at the outset that the larger automobiles would be more expensive to operate. Our investigations have not been in sufficient detail to corroborate this. However, if cars of different size are driven the same number of miles, the larger ones are more costly because of the greater investment, costs of operation and depreciation. Our analysis does suggest a close relationship between costs per mile and total miles driven, with the automobiles driven more miles having the smaller per mile cost.

### Labor Efficiency

At the outset we assumed that number of animal units handled per employee measured labor efficiency. Of course, employees worked longer hours at some markets than at others, particularly on auction day. However, any conclusion of efficiency or inefficiency of labor could be checked against cost of labor per animal unit handled, as discussed previously.

Table 10 is divided into three parts, showing animal units handled per employee each week at the auction, at the daily market and a total for the entire operation at each market. Each section of the table shows three things - (1) number of animal units handled per yard and field employee; (2) number of animal units handled per office employee; and (3) number of animal units handled per employee.

These figures were derived by dividing the animal units handled per sale (or per week) by three separate figures: (1) Number of yard and field employees; (2) number of office employees; and

(3) total number of employees, including yard, field and office.

The first section of the table deals with the auctions. Data were based on only 51 weekly sales even though there are 52 weeks in the year because in most instances one sale is missed each year due to a major holiday. There was a tendency for the markets handling larger volume to show better use of their labor by handling more animal units per employee. This was as expected; however, it did not hold all the way through. For example, Market 7 with less than 300 animal units per sale was handling 18 units per employee, just one less than Market 8 with three times as much volume. This suggests room for improvement in use of labor at auction



Another method of hog grading involves marking with chalk and cutting them out later.



Table 10. - Number of animal units handled each week at the auction and the daily markets and total by employees at nine branch markets, 1955

Item	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
<u>On auction day</u>										
<u>Animal units per sale (51 sales)</u>	1,096	1,025	1,071	451	484	175	298	922	545	6,067
<u>Animal units handled per sale by:</u>										
Each yard and field employee <sup>1</sup>	32	26	29	17	25	13	25	23	21	25
Each office employee <sup>1</sup>	157	171	178	75	81	29	60	115	68	105
Each employee <sup>1 2</sup>	27	23	25	14	19	9	18	19	16	20
<u>Each week on daily market</u>										
<u>Animal units per week</u>	784	533	149	603	438	264	208	636	99	3,714
<u>Animal units handled per week by:</u>										
Each full-time yard and field employee	36	48	17	86	88	66	52	127	66	54
Each full-time office employee	157	266	75	302	438	264	208	318	198	225
Each full-time employee <sup>2</sup>	29	41	14	67	73	53	42	91	50	44
<u>Total - auction and daily</u>										
<u>Animal units per week</u>	1,859	1,539	1,199	1,045	912	607	501	1,540	634	9,836
<u>Animal units handled per week by:</u>										
Each yard and field employee <sup>3</sup>	74	86	75	87	107	71	84	112	85	85
Each office employee <sup>3</sup>	344	550	428	373	456	202	278	481	334	383
Each employee <sup>1 2 3</sup>	61	73	64	71	87	53	64	91	67	70

<sup>1</sup>All employees working on the day of the auction are considered here.

<sup>2</sup>These figures include the number of animal units handled by each employee, considering yard and field men and office employees together.

<sup>3</sup>To compute these figures part-time employees (used at auction) have been reduced to man-week equivalents. For this reason the sum of auction and daily will not add to these totals.

Market 8, one of the larger markets and therefore expected to be more efficient.

In the middle section of table 10 which deals with the daily market, a very definite deficiency in use of labor is shown at Market 1. This was more surprising since it was the largest in the group. Even so, this market stood next to the bottom in number of animal units handled per employee. Yard and field employees were handling only 36 units compared to an average for the nine markets of 54; office employees were handling only 157 compared to an average of 225. Market 5, with just over half as much volume, handled two and one-half times as much volume per employee.

The same general picture is shown in the last section of table 10, where consideration is given to labor efficiency at the auction and daily market combined. Market 1 with the largest volume was again next to the bottom in labor efficiency. Fewer animal units were handled per employee here than at any market except number 6 which had only one-third the volume of Market 1. Management at Market 5 showed unusual ability to make good use of labor. This

market, less than average in size, was next to the top in animal units handled per employee. This carried through with yard and field employees and total employees. In case of number of units handled per office employee it was still above average but third from the top.

Table 4 shows that the labor cost per animal unit at Market 5 was low, thus corroborating these findings. On the other hand this same table indicates the high labor cost at Market 1. This as we have seen was also borne out in the study of labor efficiency. Thus we have a double emphasis on the necessity for management at Market 1 to carefully analyze labor costs to see if they can be reduced. As pointed out above, it can be seen that labor efficiency and cost of labor are less of a problem at Market 5. We would not suggest that management at this market disregard labor costs because even among the best there is room for improvement. However, there may be other areas, such as administrative expense or telephone and telegraph, where this market is less efficient than the average. These fields of higher costs may be more fruitful for this market to



*Lambs being sold by the auction method in pens of graded, pooled lots. Lamb pools have many advantages to farmers and buyers. Their expanded use is encouraged.*



begin its analysis in an attempt to attain greater efficiency.

### Time Required to Auction Livestock

All activities at an auction are hinged around the sales ring. Receiving and yarding of livestock, sorting in the alley prior to sale, weighing, and yarding in buyers' pens after the sale are all tied to the selling function performed by the auctioneer and the men working in the sales ring. These other activities must be synchronized with those of the auctioneer if the sale is to run smoothly. If this can be done the auctioneer can and does control the speed of the sale. An alert auctioneer, knowing human nature, may take advantage of a situation and influence prices to some extent simply by the speed at which he sells. An hour saved in the time of the sale may mean many dollars in reduced costs.



*Selling of single head lots of cattle is common practice among auctions. Whenever possible, group selling is recommended.*

We used a stopwatch to check the time required to move livestock through the ring, checking sales at each of the nine markets. Time, in seconds, was recorded for three phases of the selling process:

1. Workout time - seconds auctioneer was actually crying for bids on a particular lot.

2. Between lot time - seconds from the moment auctioneer said, "Sold,"

until he began to cry for bids on the next lot.

3. Total time - No. 1 plus No. 2 above.

We recorded data on nearly 3,000 lots from the nine markets. In addition to the time in seconds, we also noted the species, class and size of lot. The data were punched on cards and summarized by this electronic device.

The authors recognize certain limitations of these records. They were not all taken at the same season of the year. Some were taken in the spring, some in the fall and the remainder in the winter. Three different men did the field work on this phase of the project. In the case of the records taken in the spring, all lots throughout the entire sale were not recorded. Despite these limitations, however, we feel the overall results reflect the situation quite accurately.

### Cattle by Class

As might be expected feeder cattle were given longer workout time than slaughter cattle (table 11). This may be accounted for by the fact that feeders were bought largely by farmers who were not accustomed to the fast pace maintained by packer buyers who bought the bulk of the slaughter cattle. The workout time was 20 seconds per head for feeder and 15 seconds for slaughter cattle. The difference would have been greater except that feeder cattle were more frequently sold in larger lots. Larger lot sales, of course, would tend to make the time per head less.

Table 11. - Time in seconds per head required to auction cattle by class. Summary of nine branch markets, 1955

Class	Workout time	Between lot time	Total time
Seconds			
Slaughter	15	8	23
Feeder	20	9	29
Dairy	18	12	30
Bulls	25	28	53
Average of all classes	17	9	26



*New pole-type barn and sorting alley for feeder cattle is a helpful facility in rendering the service of supplying good replacement stock.*

Workout time per lot was 20 seconds for slaughter cattle and 34 seconds for feeders. The average size of slaughter lots was 1.3 head while feeder lots averaged 1.7 head. However, this difference would not account for all the difference in workout time. Workout time for bulls was 25 seconds per head.

Between lot time was similar for slaughter and feeder cattle but about three times as much for bulls, showing they are more difficult to handle.

The several markets varied considerably in time required to sell slaughter cattle. The same was true when comparison was made of time to sell feeders. So there is adequate room for improvement particularly among markets that require longer periods to sell.

#### Livestock by Species - Market Comparisons

Table 12 shows a comparison of selling the different species in single head lots and in lots as they come through the ring, regardless of size. The upper half of the table deals with single head lots. It shows a total of 32 seconds per head required to sell cattle at all markets. This compares with 35 seconds for hogs and 25 seconds for calves.

Considerable variation was found among the markets for each of these species. For example, cattle time ranged between 18 and 49 seconds; calves between 16 and 37, and hogs between 18 and 57. In each instance Market 2 had the fastest time. For cattle Market 5 was slowest; in handling hogs, Market 1 was slowest; and for calves it was Market 6. Translated into terms of dollars, the savings effected would be substantial if the Markets with the slowest time could bring this time up to the average.

Another interesting comparison involved the relative proportion of the total time used in workout and between lots. At Market 3 the between lot time for cattle was greater than the workout time.

At Market 8, however, the between lot time was only one-third that used for workout. Market 8 was getting the cattle moved into and out of the ring in 7 seconds while it required 19 seconds at Market 3. The auctioneer was spending 4 seconds longer to work up the bids at Market 8 than at Market 3 but the entire job, including moving the animal into and out of the ring was being done 8 seconds faster at Market 8. The difference, of course, was accounted for in the much longer between-lot time at Market 3. This essentially was unproductive time.



Table 12. - Time in seconds per head required to auction livestock at nine branch markets, 1956

Livestock sold	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	Market 9	All markets
In single-head lots (seconds)										
<u>Cattle:</u>										
Workout time	21	12	18	18	32	27	30	22	20	20
Between-lot time	11	6	19	9	17	15	16	7	13	12
Total	32	18	37	27	49	42	46	29	33	32
<u>Calves:</u>										
Workout time	-	10	10	18	21	26	17	12	12	16
Between-lot time	-	6	12	14	6	11	9	9	10	9
Total	-	16	22	32	27	37	26	21	22	25
<u>Hogs:</u>										
Workout time	29	12	13	14	26	19	20	12	17	19
Between-lot time	28	6	11	12	19	13	18	32	21	16
Total	57	18	24	26	45	32	38	44	38	35
In all size lots (seconds)										
<u>Cattle:</u>										
Workout time	18	12	18	16	15	17	21	21	20	16
Between-lot time	9	6	20	9	7	10	11	7	13	9
Total	27	18	38	25	22	27	32	28	33	25
<u>Calves:</u>										
Workout time	-	5	7	18	21	26	17	12	12	13
Between-lot time	-	3	9	14	6	11	9	9	10	8
Total	-	8	16	32	27	37	26	21	22	21
<u>Hogs:</u>										
Workout time	5	5	1	5	9	12	9	3	4	4
Between-lot time	5	2	1	5	5	9	6	6	4	4
Total	10	7	2	10	14	21	15	9	8	8
<u>Sheep and Lambs:</u>										
Workout time	-	1	3	6	8	5	7	-	-	4
Between-lot time	-	1	3	4	7	7	6	-	-	4
Total	-	2	6	10	15	12	13	-	-	8

Extending the sale out longer than necessary by slow livestock movement causes extra hourly labor costs.

The slowing of the tempo may also have a detrimental influence on prices although this has not been proved. No one should question the fact that it is easier for an auctioneer to keep the attention of buyers if a faster tempo is maintained. If most of the buyers are following the auctioneer and the bids being offered, there is more effective competition which should result in higher prices.

With this possible double effect of a shorter between-lot period, it may be well for managers to look carefully at their handling procedure and facility layout. To assure a smooth, rapid flow of livestock, eliminating cross traffic and bottlenecks is very essential. This rapid tempo can be maintained only if employees working livestock into and out of the ring have been well trained in methods of speeding the operation.

From the top part of table 12 it can be seen that Markets 3, 5, 6, 7, and 9 were all taking more time than the average to move their cattle into and out of the ring. In handling calves, markets needing attention were numbers 3, 4, 6, and 9. For hogs, improvement was most needed in Markets 1, 5, 7, 8, and 9.

The facilities at Market 2, which had the least between-lot time for all species, were not particularly well arranged. It was a long, narrow yard where some livestock had to move an unusually long distance to and from the sales ring. The pattern of efficient flow here can be attributed to good management. The manager had been there many years, had worked out a good system, trained his employees well, and always worked in the background with them, rather than in the auction ring.

The facilities at Market 3, which required the longest time to move cattle into and out of the ring, had been converted into a sales barn from an old public stockyard. While the yards were more compact than Market 2, for example, the arrangement was much less desirable. Under the system of flow there was some cross traffic. The manager worked in the ring so that he was not available to

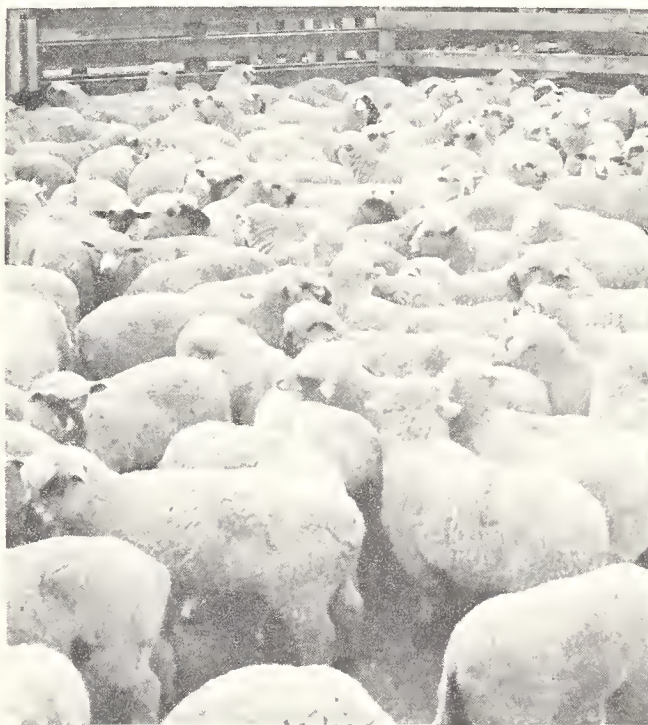
give personal direction in moving the animals through the alleys to and from the ring.

The lower half of table 12 is concerned with all animals handled through the auction markets. Several of the markets sold the bulk of their livestock in single head lots, so the seconds per head was little different whether considering only the single-head sales or the entire sales operation. However, Markets 5, 6, and 7, which had required the longest times to sell cattle singly, were more nearly in line with the others when sales in all size lots were considered. Reason for this was that these markets sold a large proportion of their cattle in groups.

When sold singly Market 5, for example, took 49 seconds a head to sell cattle. When sold in groups this was reduced to 27 seconds a head or a saving of more than 1/3 minute for each head of cattle handled. This amount of time multiplied by the number of cattle marketed through this auction amounted to a substantial saving. It argues well for the group method of selling.

#### Effect of Lot Size on Selling Time

In table 13 is further evidence of the savings in time with group selling. For



*Some markets provide a valuable service to their patrons by securing for them good quality feeder lambs.*



Table 13. - Time in seconds per head required to auction livestock in different size lots, 1956

Size of lot	Cattle			Hogs			Sheep		
	Workout	Between lots	Total	Workout	Between lots	Total	Workout	Between lots	Total
Single head	20	12	32	19	16	35	23	23	46
2 to 5 head	14	7	21	9	8	17	10	8	18
6 to 10 head	10	3	13	4	3	7	4	4	8
11 or more	6	3	9	1	1	2	1	1	2
Average	16	9	25	4	4	8	4	4	8

example, cattle sold in groups of over 10 head required only about one-fourth the time as when sold singly - 9 seconds compared with 32. Hogs and sheep sold in these larger groups required even less time - only 2 seconds for each specie compared with 35 and 46 seconds for single hogs and sheep.

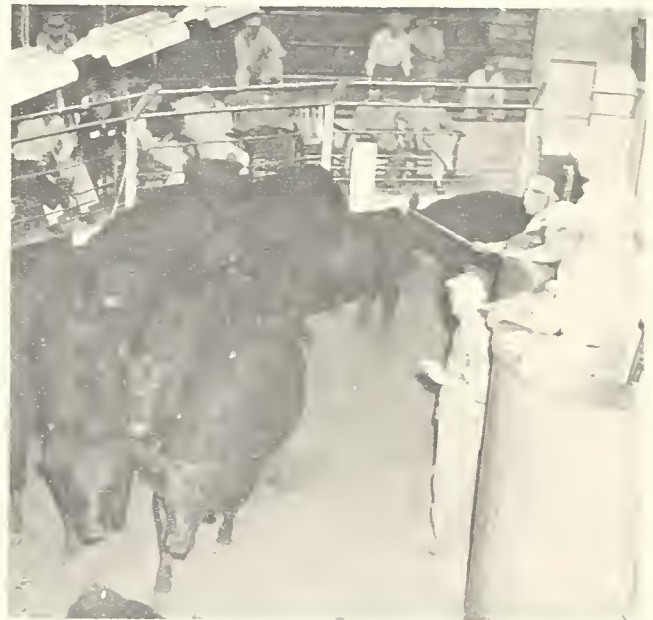
It is difficult to place a monetary value on the savings made possible through larger lot selling because one cannot tell to what degree the decrease in operating time may be accompanied by a necessary increase in hourly wages.<sup>5</sup> At any rate all who have any part in the auction, from consignors to buyers and employees, can see good results from the faster-moving sale made possible by group selling.

### Auctioneer's Knowledge of Livestock

At all Ohio and Indiana markets the auctioneer was responsible for determining the first asking price for each lot of livestock as it came into the sales pavilion. With this practice it is especially important that he be a good judge of livestock values. He should be able to tell at a glance approximately how much the animal is worth so that he will be able to start the bid up near the actual value. If the auctioneer is not a good judge of livestock values, he may open the bidding too low so that time is wasted in working it up to the price it finally brings. Or he may ask too high a

price and have to back down. This also is time consuming.

In addition, when buyers see he does not have a very good idea of the value of the animal, they will make it harder for him to get what it is worth. He may work hard trying to get a higher price for an



A consignment of 25 head of choice slaughter steers move through the auction ring. Lot selling whether of slaughter or stocker-feeder animals has many advantages over single head selling.

animal that has already been bid up to its value and may sell another at less than it is worth.

How an auctioneer starts each lot will have a strong influence on how fast the sale moves along. If he is a good judge of livestock values and spends only a limited time on each lot, he will encourage buyers to get into the habit of bidding fast. There will be less time for them to talk and visit among themselves and hence a likelihood of more competitive bidding on each lot.

<sup>5</sup>Under even the best of situations it is a problem for management to get and keep good hourly labor for an auction that operates only one day a week. It is assumed that in most cases if hours worked were reduced it would be necessary to increase hourly wage rates in order to attract workers.

At one market where the sale moved faster than usual, the auctioneer would take a quick look at the animals as they came into the ring and immediately begin crying the price he hoped to get. After a few seconds he often found the buyers would not begin bidding at this price. It became necessary, then, to back down a step or two until the buyers would take hold.

A record was kept on the sale of 30 lots at this market with a notation made on the first asking price, the firm starting bid and final sale price (table 14).

Buyers began bidding on the first asked price in 10 instances. With 20 lots they would not begin bidding on the price first asked so either of two things happened: (1) The auctioneer had to back down and suggest a price where buyers would take hold; or (2) one of the buyers suggested a lower price which became the first firm bid. In 14 instances the firm bid was either 50 cents or \$1 a hundredweight less than the asked price. In five cases it was \$1.50 or \$2 a hundredweight less and in one instance it was \$3 a hundredweight less.

The first firm bid was the only bid and it bought the animals in four cases. In 14 cases the final bid was up to \$1 higher than the first firm bid. In eight instances the final bid was between \$1 and \$2 higher than the first firm bid and in the remaining four cases the final bid was over \$2 more than the first firm bid - but in no instance was there as much difference as \$3 between the first and final bids.

In about half the cases the price received for the lot was greater than that first asked and in the other half the price received was less than the first asked

Table 14. - Asking price, firm bid, and selling price per hundredweight for live-stock at one Ohio branch market, 1955

Asking price	Firm bid	Selling price
\$8.00	\$7.00	\$7.70
14.00	13.50	14.40
12.00	11.00	11.35
13.00	13.00	15.30
9.00	9.00	11.70
11.00	9.00	9.20
14.00	12.00	13.50
12.00	12.00	13.25
13.00	12.00	14.20
16.00	14.00	14.25
14.00	14.00	14.25
13.00	13.00	14.25
12.00	11.00	12.50
14.00	11.00	12.25
10.00	9.00	9.00
12.00	12.00	12.75
11.00	10.00	10.00
12.00	12.00	14.50
14.00	13.00	14.00
14.00	12.50	13.50
9.50	9.00	9.00
16.00	16.00	17.25
10.00	9.50	9.75
14.00	13.00	13.75
8.00	8.00	8.20
11.00	10.00	10.75
9.00	8.00	9.60
13.00	12.00	12.00
14.00	12.00	12.25
11.00	11.00	12.75

price. But in no instance did it vary as much as \$3. This would indicate the auctioneer had a pretty good idea of what the buyers would pay for the stock. In only three instances did he miss by more than \$2. He missed it by between \$1 and \$2 in 10 instances and in the remaining 17 cases he missed it by \$1 or less.

## Standards of Performance

All who have been associated with livestock marketing recognize that it is a dynamic business. Changes are constantly being made - most of them for the better. But there is still much room for improvement.

A comparison of the performance of the nine markets included in the study was

revealing. Each measure of efficiency showed a wide range of variation.

This section of the report will show the most efficient market in performing each function. It is not suggested that the most efficient market listed in each category has reached its peak of efficiency. But it is so much better than the average



of the nine markets that it might be considered a temporary goal.

These goals should be satisfactory for the less efficient markets in the various categories. For those in the upper brackets and for the most efficient market itself, of course, higher goals will need to be established.

### Business Getting Ability

Following are the highest percentages of marketable livestock in a designated trade territory that were attracted to a market with what seemed to be a reasonable market area boundary.

	Percent
Cattle	75
Calves	35
Hogs	25
Sheep	60

The percentages of hogs and calves were smaller than cattle and sheep because the designated market areas were set up more nearly on the basis of cattle than on the smaller stock. Hogs and calves are usually trucked shorter distances than cattle and sheep.

### Costs Per Animal Unit

The following list, taken from table 4 on page 14, shows the lowest cost among

the nine markets<sup>6</sup> in each of the 16 major expense items:

	Cents
Management	11
Yard and field labor	31
Office labor	15
Miscellaneous labor	4
Auctioneer	8
Administrative	9
Automobile	7
Telephone and telegraph	3
Other utilities	2
Office expense	3
Yard expense	68
Advertising and promotion	1
Taxes	*
Miscellaneous	3
Depreciation and rent	6
Interest on investment	63

\*Less than 1/2 cent.

Care must be exercised in the use of these figures because some costs may be substituted for others. That is, a market might be keeping one cost item down because it is allowing excessive costs somewhere else. For example, telephone costs may be kept low by excessive automobile travel. Again, office labor may be kept low if most of the work is

<sup>6</sup>In case of yard expense and interest on investment the figures represent the lowest costs at markets where facilities were owned. These costs were lower at markets where facilities were rented, but were not used here because they would not present a true picture. Comparison should be made with all owned or all leased facilities. (See discussion of costs of owning and leasing facilities on page 17.)



*A convenient unloading dock allows trucks to back up to a platform where the animals walk off onto a flat surface instead of down a ramp.*

done in the central office, but this would cause higher administrative costs.

In view of these facts it is not expected that any market would be able to get its costs down to the bottom in all 16 items. The figures presented are minimum in each case but not necessarily optimum. However, they should be valuable for markets to use in making individual comparisons. They might be used as goals as long as their attainment does not jeopardize service.

### Automobile - Cost Per Mile of Operation

The lowest automobile cost, 4.8 cents per mile, was found at the market with the smallest volume. Cost at this market (number 7) was much higher than the average when it was compared on the basis of volume handled - 14 cents per animal unit compared to an average of 10 cents and a low of 7 cents at Market 4. This low market in cost per animal unit, however, handled twice as much volume as Market 7.

### Labor Efficiency

The following tabulation shows the number of animal units handled per employee at markets where best use was being made of labor. It was assumed that labor was being used most efficiently when greatest volume was handled per man.

Number of animal units handled each week

By each:	At auction	At daily market	Total operation
Yard man	32	127	112
Office employee	178	438	550
Employee	27	73	91

### Time Required to Auction Livestock

As mentioned previously no evaluation was possible in the current study of relative prices received when livestock was sold rapidly or slowly. However, it was pointed out that there is advantage in rapid selling. This is true if for no other reason than that it shows evidence of a well coordinated sale. In addition there are savings in labor expense when the sale moves faster and gets through sooner.

Following is a tabulation showing the time required to sell livestock in single head lots at the market which made the fastest time. Incidentally, the fastest time for all three species was made at the same auction, Market 2.

Time in seconds per head required to sell livestock in single-head lots

Type of livestock	Workout time	Between-lot time	Total time
Seconds			
Cattle	12	6	18
Calves	10	6	16
Hogs	12	6	18

In the next tabulation we show the fastest time per head required to sell livestock regardless of the size of lot. A comparison of this table with the previous one shows the time saved by use of the group selling technique. In case of cattle there was no difference because the fast selling auction sold all their cattle in single head lots.

Time in seconds per head required to sell livestock in all sized lots

Type of livestock	Workout time	Between-lot time	Total time
Seconds			
Cattle	12	6	18
Calves	5	3	8
Hogs	1	1	2
Sheep	1	1	2

### Suggestions for Improvement

On the firing line every day, cooperative livestock market managements are seeking ways to make their markets more efficient and to do a better job of marketing their members' livestock.

Undoubtedly they have considered some of the following items. However, careful study may show other possibilities for improved efficiency in marketing in each case.



## Securing Greater Volume

All market operators recognize the importance of volume. The current study has simply borne this out and dramatized the influence of volume on various cost factors.

Large volume usually attracts more consignors and more buyers. The greater number of buyers creates more buying competition which is usually conducive to better prices, which in turn encourage more consignments, thus building even greater volume. In addition, the larger volume markets make it possible to secure higher caliber management and to provide a wider range of services. Larger volume also helps keep unit costs to a minimum.

## Efficient Use of Labor

Labor is the greatest single item of expense in running a livestock market. Here, then, may be one of the first and best places management should look in their attempt to effect savings.

We found considerable variation in labor efficiency among the markets studied. Of course, greatest improvement might be expected from markets shown to be least efficient.



*Lambs being sorted prior to sale. After unloading, all lambs handled through pools are carefully weighed and graded before being sold in groups of mixed ownership.*

The manager who is getting the greatest efficiency from his men is constantly alert to every opportunity for doing each phase of the work with less effort. Continual analysis and careful planning of the work are basic parts of each manager's responsibility. He should not be adverse to visiting some of the other auctions in his association or even his competitors to observe the whole process of physical handling from receiving to loading out. Even though the facilities at his market may be different from those he visits, some of the principles undoubtedly may be applied to make his own operation more efficient.

Greatest labor efficiency can be obtained when facilities are well designed for ease of flow. Often a minor alteration to eliminate a bottleneck may save many minutes or even an hour or so each sale.

Management can make a detailed study of the present facility to determine how the movement of livestock can be made with the greatest dispatch. After this, a training program for yardmen can insure that their efforts are most productive.

As a general rule it seems desirable for the manager to work in the yard to oversee the work and insure that the livestock keep moving. This is particularly true if trouble is experienced in this phase of the activity.

It is important that competent men be used in sorting the livestock before it goes into the ring. In some instances the ring men cut back part of the animals after they had entered the ring. This slowed the tempo considerably so should be avoided if possible. Cattle were being sorted right up against the sale ring door in some cases, so that an extra animal would go in by mistake. Sorting farther back in the alley would avoid this difficulty.

An auction operation is such that greatest efficiency can be obtained only when employees are well trained to do several jobs. For example, through the course of the sale one man might be expected to receive, tag, yard, sort and load out. If the man in charge of a particular phase of the work is not there, then one of the other men should be sufficiently familiar with it so that he

can step in and the sale will proceed without loss of efficiency.

Detailed labor costs should be kept, particularly at some of the less efficient markets to determine and compare the actual expense involved in selling the various species of livestock.

A traffic man could be used to good advantage at some of the larger markets to direct traffic into the entry area and prepare trucks to back up to the unloading docks.

More office workers were used at some of the markets, particularly the smaller ones, than were necessary to do the job. In these cases office procedures should be studied to see if the number can be reduced.

A man should be assigned to receiving livestock who is especially adept at meeting people, selling the association's program and settling small disputes that inevitably arise. This is the only contact some of the producers have with their organization. For this reason it is very important that a good man work in this position. He can probably do much more to strengthen membership relations than can be done with a like amount of effort expended in the conventional manner.

Careful handling of livestock is very important. Bruises cause excessive loss which is paid for eventually by the farmer in the form of lower prices. Every effort should be made to have facility layout such that livestock work smoothly, also to teach all employees the best methods to insure gentle handling.

Every market has its periods of peak loads when every available yard worker is busy. However, there are other slack periods when all men are not fully employed. An enterprising manager will plan to utilize this labor to keep the yards and pens - even the parking lot and outside of the buildings - clean and attractive. A number of facilities showed poor house-keeping. Without extra cost the manager could have made good use of his labor during slack periods and kept his yards in good order. This generally improved appearance would have a good effect on members and hence on volume and success of the market.



*A number of markets provide special facilities for handling feeder pigs.*

### **Mechanization Throughout the Operation**

This ties in closely with labor efficiency, because a man with a machine can usually displace several men. Anything that can be done to minimize this costly labor expense should be investigated. It may seem that livestock marketing does not lend itself readily to greater mechanization. However, when we consider the entire operation, we may find numerous places where mechanization will apply.

A simplified accounting procedure, adapted so that much of the work could be done in the central office on automatic bookkeeping machines, may save the work of one or two clerks. Having the auction clerk determine and record the gross sale figure with use of compiled figures from a handbook may save one office girl. This procedure is particularly adaptable where selling is at a moderate pace.

Pneumatic tubes or endless belts to carry tickets from auction booth to office save labor.

Hydraulic gates into and out of the ring and scales electrically controlled from a central point will save labor and speed up the sale. If this is not feasible because of its cost in relation to the volume handled, then provision should be made for the auctioneer to control the



outgoing gate with a rope and pully arrangement.

When the livestock is weighed prior to sale, a lighted board showing the weight as the animals come into the ring is helpful.

Methods used at large produce auctions in Europe have been tried at a livestock auction in Canada. This method known as the clock system involves electric buttons, one at each buyer's chair. As the animal comes into the ring a price, slightly above its value, is placed on it by the auction management. This is shown on a lighted board all buyers can see. The price then is gradually lowered with an automatic device until it reaches a point where some one wishes to buy. He so signifies by pushing his button. This method has not been widely used in the livestock field yet but may offer some possibilities.

### Facility Cost and Arrangement

Since auction facilities are used only once a week, the investment cost is large under the best of circumstances. In most of the markets considered in this study, some additional use was made of the facilities besides the weekly auction. The daily hog market was useful in helping to share the cost of the facilities. This cost can become excessive if it is not watched carefully. This is particularly a problem where volume is small. When a new facility is being planned, one of the most important questions is that of size. It should be large enough to take care of volume expected currently, with some provision for growth, but care should be taken to prevent excessive investment in facilities.

The best facility layout is arranged so that livestock can be taken as directly as possible from receiving dock to holding pens, through sorting alley, to the ring, across scales, to buyers' pens and then to loading-out dock. Enough docks should be available so that trucks do not have to wait in long lines. All gates should be hung so that they open with the flow of traffic. Their length should be the width of the alley and provision should be made so they will swing both ways.

Scales should be located next to the ring, with no space in between; that is, the scale gates should be the same as either the incoming or outgoing ring gate, depending on whether livestock is weighed before or after sale. In either case the weighmaster could be provided with space next to the auctioneer and clerk. Besides the saving of time and labor in driving livestock from the ring to the scale, this arrangement would have the advantage of inspiring confidence of both buyers and sellers when they see the weighmaster performing his function. This confidence could be increased if the scale had a large dial where the actual weight of each draft or scale load could be seen by people seated around the ring. If the bulk of the animals were weighed in single head lots, the scale should be small so that accurate weight can be caught quickly.

Consideration might be given to having two scales near the sales ring, one for single-head and very small lots, the other for larger groups. An alternative that would help in speeding up weighing of small lots on a large scale would be to divide the scale down the middle with removable panels.

The sales ring should be kept small - just large enough to accommodate the largest group expected to be sold. A small sales ring makes for a faster sale. Buyers' reserved seats should be located so they can get a good view of the animals as they move into and out of the ring.

At several of the markets the services of a competent engineer should be secured to study market facility arrangement. These findings could be used in connection with time and motion studies to point out needed changes in layout.

The yardmen at some of the auctions had difficulty in hearing announcement of the pen numbers into which they were to yard the livestock after sale. This could be taken care of by installing a larger loud speaker system with speakers more strategically located.

In most cases the markets had done a good job of routing livestock so there was no cross traffic as animals were moving to and from the ring. However, in at least one case a bad cross traffic situation

was noted with hogs, with incoming and outgoing hogs using the same alley. Every effort should be made to avoid this.

At some markets a telephone was not available for buyers except the one at the front desk or in the manager's office. It is desirable to have a pay telephone available in a booth located in the buyers' room. This arrangement makes a place where buyers can make their calls confidentially. At the same time it relieves the congestion in the area of the manager's office, leaving it free for discussions between management and patrons.

Insufficient sand or sawdust was occasionally found on the concrete floor of the sales ring, with the result that toward the end of the sale the floor became wet and animals would sometimes slip and fall. This could easily be corrected by closer attention by those in charge.

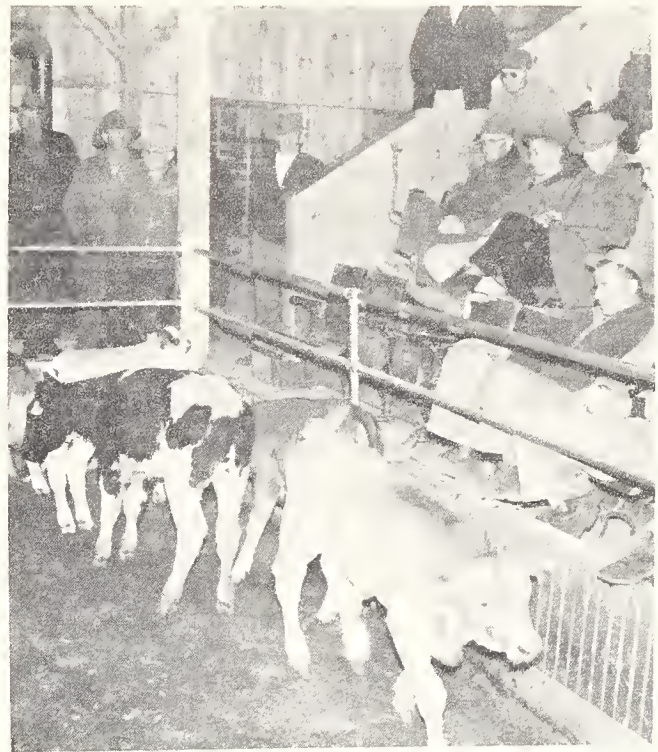
More adequate signs along the main roads directing people to the location of the market could be installed to advantage in several instances.

As plans are made to build new auction facilities or to revamp or add to old ones, consideration should be given to using every available space. An example of this, noted at some of the auctions, was a waste of space under the seats. This could be utilized for part of the office space, the buyers or veterinarian's room or at least as storage space.

The office should be located conveniently to the ring and other facilities but not in such a position that people tend to gather in front of it or even in the office itself. At several facilities where this was found office workers had difficulty in putting their best efforts into their work.

### Pooling and Group Selling

The study brought out the advantages of group selling from the standpoint of time saved. Lambs and veal calves both lend themselves to grading, commingling and selling in groups. Most of the markets sponsored lamb pools but only one sold calves by this method.



*At some markets veal calves of mixed ownership are weighed and graded into large uniform lots before the sale. Here a pen of 65 calves is being sold at auction by a gate-cut sample.*

From observation of the success at the market that sold calves in large, graded lots, we would strongly recommend it at all markets where enough calves are received to justify its adoption. If numbers are few there may be advantage in weighing and grading before the sale even though selling is done in small or single head lots.

Slaughter livestock, including lambs and calves, are usually bought by packer buyers who can use fairly large numbers. These buyers prefer to fill their orders as soon as possible with a minimum of effort. If they need the livestock they are not likely to let a good sized group get away without bidding all they can afford to pay for it. Thus, in many cases, group selling has the effect of increasing competition.

A sale can move much faster if selling is done in groups rather than in single-head lots. However in order for it to be successful, the animals within the group must be similar in grade and quality. Personal judgment must be used in grading livestock. Unless extreme care is exercised and trained, competent men used to do the sorting and grading, livestock in the group will not be uniform.



In these cases the better animals will help sell the poorer ones. The total price received will likely be less than it would have been if the groups had been sorted more uniformly.

Thus, although we have too few data to make a complete economic appraisal of the costs and benefits of group versus single-head selling, there seems definite advantage to selling in groups, whether in single ownership or commingled.

All auction markets may not be able to sort all their livestock and sell them in groups, but, there is much room for improvement in this direction. If the present trend of higher labor and management costs continues, there will be even greater reason to put into effect labor saving devices and practices. Thus selling in larger graded lots may be in the picture in the future. Anything we can do to approach this assembly line system in our marketing will be of value.

### Merit Selling

Closely allied to the discussion on group selling is the broader concept of merit selling. Generally in this program livestock is graded and sold in larger lots of mixed ownership. However, the



*Youth at an American Institute of Cooperation meeting participate in a meat-type hog demonstration.*

animals might also be sold singly. The concept implies an effort to sell each animal for precisely what it is worth.

The meat-type hog marketing program is an example of merit selling. Under this program hogs are sorted in accordance with their estimated cut-out value, with emphasis on meat rather than fat.

Quality as defined by the housewife, embodying what she wants in her meats is basic to effective merit selling. But we cannot hope to do this job completely until the consumer's desires are known and reflected all the way back to the producer.

The differential paid for meat-type hogs is having its effect in leading to the production of this type of animal. But the program is lagging and should be speeded up. There is a possibility of developing a similar program for beef. Overly fat beef is just as wasteful and as distasteful to many people as overly fat pork.

To develop a merit selling program for beef, two approaches may be used.

(1) Well-designed and well-executed consumer preference studies should be continued. These will provide continuing basic information; but they should be supplemented with educational information including best methods of cooking cuts with less fat.

Consumer preference studies, education and advertising - these programs will help, to be sure. But until higher prices are paid to the farmer for the animals that will produce the type of beef the consumer wants and is willing to pay for, we cannot expect to make very much real progress in merit selling of beef.

(2) Another method for accomplishing this might involve a voluntary plan by the large meat retailers to offer more than one grade. Since management of the large retail chain stores feel they are making the best profits possible under the present system wherein they offer only one grade, any new program may be hard to put into effect. However, large supermarkets that handle the bulk of the retail meat business could offer two or even three grades of beef. Each of these grades would receive similar consideration in such matters as store display

space, quality control program, merchandising and advertising techniques, and percent profit markup.

### Consolidations and Mergers

For many years there has been a trend for most types of firms to become larger. This trend has not been without a basis. Larger firms have many advantages over smaller ones. These advantages are generally associated with greater efficiency made possible by larger volume. Economists refer to it as "economies of scale." To be more specific, when labor can be replaced by capital investment, savings usually result. But the high cost of installing machines to replace labor can be justified in many cases only when volume and efficiency are high.

Management and administrative costs are relatively higher in a small business. This is true because management's time is usually less fully employed in a small operation. Many of the administrative costs are fixed. They go on day after day regardless of the number of units handled.

Numerous ways have been suggested and used to obtain greater volume. Any practicable means which possesses a reasonable potential to do this should be tried. Apparently one of the more successful methods has been for smaller firms to consolidate or for a smaller one to merge with a large one.

Merger may be advantageous whether the firms are in dire circumstances, about to be forced out of business or whether they are progressing reasonably well but less efficient than desirable because of their small size. In other words, merger may be used to strengthen existing organizations as well as to save some from disaster.

We recognize that merger or consolidation is not always the answer. In some instances where a well-organized and well-operated association is doing a good job within the practical limits of its operating territory, there may be little to gain by combining with a similar organization operating nearby but in its own area. Distances from farm to market, transportation rates, and other factors need to be considered. In situations

of this kind there may be advantage to both associations in cooperating to obtain certain supplies or services needed by both.

When a merger or consolidation is contemplated, it always meets with disapproval from some quarters. All implications should be studied carefully before it is recommended. The disadvantages as well as the advantages should be spelled out. After careful analysis if it appears that the associations could be strengthened or that the disadvantages of small operation could be overcome and the two businesses made more efficient through consolidation, then nothing should be allowed to stand in the way. Certainly one manager as well as some other administrative officers may have to step down but the member-owners of the association should insist that it be done if it is necessary.

If careful study indicates the advantages of merger in a specific instance and its necessity for the success of the associations, considerable work must be done before it can be successfully implemented. This work consists primarily of informing members of the reason the merger or consolidation is necessary and soliciting their support. Herein lies one of the most important factors contributing to the success of the proposed venture. Keeping membership informed so they will give continual loyal support is as important in case of a contemplated merger as it is in any other phase of cooperative activity.

### Closer Cooperation Among Associations

Since the basic philosophy of cooperatives includes combining resources to benefit all members of the group, it follows that there may also be advantage in extending this effort to include cooperation between associations.

Mention has already been made of the benefit to smaller associations of consolidating to take advantage of economies of scale. To a degree, these same benefits may be derived by the associations working closely together without formally merging.





*A real service to a livestock community may be provided through use of the auction facility for such things as 4-H Club livestock shows.*

The question now arises as to whether there is a place for cooperation between associations with basically different points of view. A case in point is the stocker and feeder procurement program of a Midwest association and the sales program of a range livestock cooperative in the West. The Midwest cooperative is committed to buy livestock for its members at the lowest possible price, whereas the association in the range area is attempting to sell at the highest possible price.

We must remember, however, that there are other things besides price to consider. Net costs or net returns, quality of livestock and service offered in the selling and procurement programs are all important factors.

One of the greatest problems of the cooperative in securing replacement stock is getting the kind and quality to fit the needs of each individual member. The cost of doing it is also important. There is no question that the job of filling each

order could be done more efficiently by consulting with men who lived in the area where the feeder livestock are produced. They are personally acquainted with characteristics of the livestock in each area and with individual producers and their livestock.

The problem of a cooperative representing range producers is to find the best outlet for each kind and quality of livestock its members have to sell. This might best be done by consulting with livestock buyers living in the area where these animals are needed, since the buyer knows the individual requirements of each feeder.

Successful operation of this type of arrangement would require an efficient operation and the ability to meet the needs of both buyer and seller. After confidence has been established as the result of satisfactory transactions, most dealings, then, could be completed by telephone with resultant savings to both associations.











